KIDNEYHOOD.org

INNOVATION, EDUCATION AND SUPPORT FOR PATIENTS WORLDWIDE

STOPPING KIDNEY DISEASE™ BASICS

Learn how to expertly manage and slow kidney disease progression in less than two hours

You will learn:

- How kidney disease progresses and how to slow it
- The most recommended treatments in 2022
- How to avoid the most common mistakes
- The skills needed to manage kidney disease for life
- How to achieve measurable results in 90 days
- Patient success stories

For patients/medical professionals considering or using the Stopping Kidney Disease (SKD) program

LEE HULL

STOPPING KIDNEY DISEASE BASICS

LEE HULL

Stopping Kidney Disease Basics

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Published by Kidneyhood.org

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First edition, 2022

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ISBN 978-1-7342624-1-4

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Terms you should be familiar with before going forward

"Stopping Kidney Disease Program" is the name of our approach, also called the "SKD program."

The program consists of the following:

1. Patient education on kidneys and kidney disease progression
2. A standardized low-protein diet with Albutrix (a keto acid which is a nutritional supplement and Microtrix (a specifically formulated multivitamin for those with kidney disease)
3. Rapid results, validation, and measurement of progress
4. Move to a less restrictive diet after you have maximized the benefit of the program
5. Support along the way to help you through any problems or issues.

Acidosis is a buildup of acid in the bloodstream. Our kidneys maintain pH balance in our bodies, and as kidney function falls, the harder it gets to maintain normal pH levels. Acidosis is a strong driver of kidney disease progression.

AHA is the American Heart Association, https://www.heart.org/.

Albutrix is a patented keto acid analog blend with the lowest nitrogen load and low to no calcium content. This blend is formulated to work with the SKD program and comply with 2020 NKF guidelines. More info at www.kidneyhood.org.

Blood urea nitrogen (BUN) All dietary protein sources both meat-based and vegetarian contain nitrogen. Nitrogen is a waste product that is normally removed by our kidneys after we consume protein. The nitrogen waste products must be filtered and excreted by our kidneys. We lose this ability as kidney function declines. These nitrogen waste products are so toxic that we will die if these waste products are not removed. Removing these nitrogen waste products is the primary reason dialysis was invented. It is also one the primary reasons for low-protein diets which lower BUN levels by reducing dietary protein intake. High BUN levels increase the rate of kidney disease progression.

Calcifications are accumulations of calcium in body tissue. These usually occur in the formation of bone, but calcium can also be deposited abnormally in soft tissue like arteries and heart valves, causing them to harden. Vascular calcification is the number one cause of heart disease in kidney patients. Supplemental calcium is no

longer recommended for kidney patients as of 2017 due to the link between supplemental calcium intake and accelerated heart disease and death.

Comorbid conditions are health conditions caused by or related to another illness. For example, kidney disease is the primary condition, but heart disease and diabetes are comorbid conditions caused by kidney disease. Blood tests outside the normal range and malnutrition are also considered comorbid conditions for our purpose. The more comorbid conditions you have, or the more severe these conditions, the worse your outcome will be.

Creatinine is a byproduct of muscle breakdown which happens every day of our lives. Our bodies are constantly breaking down and building new muscle. Creatinine is a waste product from this process. Dietary protein intake also affects creatinine levels, but to a lesser degree compared to muscle breakdown. Heavy lifting or intense exercise will normally raise creatinine levels. Meat contains creatinine and creatinine is increased from cooking meat.

Essential amino acids The body can manufacture many of the amino acids it needs, except the nine essential amino acids. These amino acids must be provided by dietary or supplemental intake to ensure protein nutrition needs are met. *Recommended daily amounts exist for each essential amino acid.* Some of the essential amino acids are converted to keto acid analogs.

Glomerular Filtration Rate (GFR or eGFR) is a blood test that measures your kidney's ability to remove waste products from your bloodstream. Older tests use GFR, and newer blood tests may use eGFR. Both calculations give similar results. We will use GFR in the book to cover both tests.

KDOQI stands for the Kidney Disease Outcome Quality Initiative, published by The National Kidney Foundation to provide recommendations for caregivers. The KDOQI was last updated in 2020 and is an excellent source of information. You can read more about KDOQI at https://www.kidney.org/professionals/guidelines.

Keto Acid Analogs, also called keto acids, are amino acids with the nitrogen waste component removed. When we consume dietary protein, our bodies break it down to the individual amino acids. For many amino acids, the nitrogen waste component must be removed before the body can use the amino acid for nutrition. When the nitrogen is removed from amino acids first, no waste workload is sent to the kidneys. These wastes show up as blood urea nitrogen or BUN on your blood test. Keto acid analogs are used to reduce the waste workload on your kidneys while providing needed protein nutrition.

Keto acid analogs are blended with amino acids to provide protein for kidney patients on low-protein diets. Blends are needed as not every amino acid can be converted to a keto acid analog.

Keto acid analogs have nothing in common with "Keto" diets or "ketosis."

Microtrix is a low-dose multivitamin formulated to meet any RDA deficiencies in the SKD program and to comply with NKF, NIH, and AHA guidelines. Microtrix ships free with every Albutrix order. More info at www.kidneyhood.org.

NIH is the National Institutes of Health, https://www.nih.gov/.

NKF refers to the National Kidney Foundation, https://www.kidney.org/.

Oxidative stress occurs when the body's ability to remove or reduce damaged cells/toxins is reduced. The rogue cells/toxins are often called "free radicals." Oxidative stress can damage cells down to the DNA level. "Antioxidants" counter oxidative stress by switching off or repairing the bad cells/toxins. Oxidative stress is much higher in kidney patients and a driver of both heart and kidney disease progression.

RDA stands for recommended daily amount, also called recommended amount (RA) or adequate daily intake (ADI). We will use RDA to refer to the daily amount of amino acids, vitamins, and minerals that you should consume. Different countries may use other terms.

Treatments, approach, program, servings, doses, and related terms are used interchangeably throughout the book. Kidney disease treatment options vary by country. In some countries, a product is a drug, and in other countries, the product is food or something in between. No information here should be considered advice on drug or drug therapies. Drug guidance is outside the scope of this book. The information in this book is about learning a dietary approach to slowing kidney and heart disease progression using education, diet, and lifestyle. Our patients are worldwide, so it's challenging to write for one set of rules. If you are unclear on any issue, please contact your physician for clarification or contact us at **support@kidneyhood.org**.

NOTE ON THE CONTENT OF THIS GUIDE

The plan, books, and products mentioned in this guide are from Kidneyhood.org and part of the "Stopping Kidney Disease or SKD program." The initial book was developed to help patients and caregivers get off to a strong start with the "SKD program" by educating them on kidney disease progression and our program. Demand from patients and caregivers has been high for an easier to understand approach, so we are publishing this basic guide for public use. The information is based on our approach and products but should also apply to other methods for managing kidney disease.

We cannot advise on every type of supplement, product, book, or diet in the world. For this reason, we only will be covering our program, books, and products with one or two exceptions.

We will not be covering treatments, diets, supplements, and approaches not recommended by reputable organizations or countries. We want to follow the most modern and reputable guidance for kidney patients.

For the record: You should always be under the care and guidance of a qualified physician without exception.

Who this book is for

Our research, education, and products are for stage 3, 4, and 5 Chronic Kidney Disease (CKD) patients not on dialysis, sometimes called "predialysis" patients.

We have found that this group of patients can use the approach described here and in many cases can significantly improve their health and kidney-related blood tests.

Dialysis patients have very different needs than those who are not on dialysis. What may be harmful to predialysis patients may be needed by dialysis patients. Therefore, the same management plan cannot cover these two groups. Thus, the needs of dialysis patients are beyond the scope of this book.

Similarly, predialysis patients should not be using products designed for dialysis patients.

A common theme in this book is being aware of the year a guideline changed. In the past, all kidney-related products were formulated for either stage 5 patients or those on dialysis. As many of you have experienced, early treatment was not recommended for stage 3 and 4 patients. This fact is an issue for us to be aware of, as many of the assumptions used to develop these products were correct at the time but are now considered harmful, obsolete, or are no longer supported by NKF guidelines. Many clinicians are not aware or have not implemented these changes yet. We will talk about the risks of being out of date with current guidance later in the book. Anything written or developed prior to 2017 should be considered out of date.

Our goal is to help patients ensure their kidneys last as long as possible. Like any disease, early intervention and treatment leads to the best outcomes.

Again, always discuss all treatment options with your doctor and be under the care of a qualified physician.

An open letter to medical professionals

If your patient has given you a copy of this letter and asked for your help, let us explain what they are asking for:

1. They want to adopt a heart- and kidney-healthy low-protein diet based on similar guidelines to the Mediterranean diet, the most recommended diet in the world. Changes have been made to lower protein, renal acid load, potassium, sodium, nitrogen, and creatinine levels.
2. All recommended daily amounts (RDA) for essential amino acids, vitamins, and minerals have been calculated for our diet. Our keto acid analog blend, Albutrix, and our low-dose multivitamin, Microtrix, supply any deficiencies in the diet so that RDAs are met.
3. In 2020, the National Kidney Foundation recommended low-protein diets and keto acid analogs like Albutrix to reduce the risk of end-stage renal disease and death and improve quality of life. If drugs are not appropriate for our form of kidney disease, low-protein diets are the only recommended treatment. Our program and guide match or exceed NKF 2020 recommendations for dietary intake.
4. We want your help evaluating the program over 90-day intervals. As our doctors, we need your objective input to determine if the program is working or not. Your advice and guidance are invaluable, and we depend on them.
5. If this program does not work, we would like your help trying another treatment, therapy, or program. We want to keep trying until we find something to slow kidney disease progression.

As kidney patients, we should not be considered a hopeless cause. Great things can be done, but we cannot do it alone. We need your support, help, and expert guidance. Please support us in living the longest, highest-quality life possible.

This book should answer any questions you may have. Please read before calling or emailing. Dieticians, nutritionists, doctors, and related clinicians can request free copies by emailing **support@kidneyhood.org**. Please include your title, complete address, email, and phone number with the request.

Thank you,

Lee Hull

SKD program basics in three steps

Step 1: Get educated and order Albutrix/Microtrix to get started.

Order a copy of the *SKD Food Guide* and order the appropriate Albutrix series (S3, S4, or S5) from www.Kidneyhood.org. Microtrix low-dose multivitamin is provided free of charge.

If you have any questions or feel you need more information before starting, please email us at support@kidneyhood.org or speak with your doctor to answer any questions. We want you to feel confident in the program. Otherwise, you will be less likely to stick with the program long enough to change your results. Take the time to get educated on all of our options and find out which programs are available in your country. We will ship free to any country.

Step 2: Stay on the SKD diet for 90 days to start, then stay on the program as long as you are improving.

Follow the diet outlined in the book as closely as possible for 90 days. The combination of the SKD diet, Albutrix, and Microtrix will ensure you are meeting your RDAs with the lowest workload on your kidneys. Your intake of vitamins, minerals, and nutrients will vary slightly day-to-day, and this is okay. Your average weekly intake is what matters.

Do not substitute foods for the first 90 days of the SKD diet if you can avoid it. All RDAs are being met through the program, so no substitutions are needed. Remember that we are trying to reduce as many variables as possible, so that you and your doctor have objective information to evaluate after 90 days. Perfection is not required, but a long-term commitment to getting better is. If you fall off the dietary wagon, start again at the next meal. Whether you know it or not, you are building skills each week that will help you manage your disease in the long term. Resist the temptation to try your own diet or make changes to the SKD diet.

Stay on the program as long as you are improving. This is normally 18-24 months before your improvements slow.

Step 3: Get blood and urine test results, and have your doctor help you validate the effectiveness of the program.

Your blood and urine tests should slowly start to improve on the program, with BUN being the first number to change meaningfully. Ask your doctor for their evaluation of your test results. If you both see that your numbers are starting to improve, stay on the program for another 90 days. If your numbers have not improved, please

reach out to us for help troubleshooting dietary issues. To date, 100% of patients who did not improve in some way did not follow the program.

Keep in mind that in addition to the SKD program, there are other issues that also impact your predicted outcomes:

Blood pressure (target of 120/80)

BMI (target around 25)

Exercise (to reduce resting heart rate to an average of 65 beats per minute or lower)

You are building skills for life.

These basic steps will take effort on your part, but you are building skills to help you manage kidney disease for life and improve your outcome. If you don't take the time to get educated and build these skills, you suffer over both the long and short term. We cannot emphasize enough how important it is to build these skills as soon as you are diagnosed with kidney disease.

INTRODUCTION

If you are reading this book, you are probably very similar to me. You are likely either a new kidney patient or someone who has had kidney disease for years, but a recent blood test has you worried.

The difference between us is that I am an old kidney patient who has tried it all. I have also worked with hundreds of patients over the past three years. I led a research and development team to solve problems we experienced from the patient's perspective. Our approach led to several patents and the only program globally that allows patients to follow modern guidance with the lowest possible workload on their kidneys.

Let me restate this fact: Solving problems from a patient's perspective allowed us to develop the first integrated program in the world for us that matches or exceeds the most up-to-date recommendations for us. My feeling is we deserve the best health-care possible and are not second-class citizens just because we are kidney patients. We deserve the best and not any less.

It's scary and overwhelming to be diagnosed with an incurable disease. Dealing with so many unknowns is hard. Don't worry. I am going to give you a quick education and help you build the skills needed to manage kidney disease for the rest of your life.

I was officially diagnosed with kidney disease in 1998 but had symptoms for years before diagnosis. My kidney disease symptoms started 28 years ago. I have tried multiple drug therapies, clinical trials, other countries, and just about every other thing you can imagine after researching the worldwide medical literature. Many things I tried were crazy and could have never worked.

My kidney function declined slowly for twelve years, and then I went into remission and have been stable for the past twelve years. I used the basic program in this book to improve my outcome. In addition, hundreds of other kidney patients have been successful using the same program. However, none of us made any real progress until we understood what was causing our disease to progress and how to take the workload off of our kidneys. We have learned this lesson over and over again. Education is the key to success.

A patient's perspective made all the difference

I was incredibly frustrated for years looking for help. I hit roadblock after roadblock. When I looked up all of the modern recommendations for kidney disease management, I found we couldn't or shouldn't follow any of them based on new published studies, or that we couldn't access care or treatment based on where we lived. The best advice from organizations like the National Kidney Foundation (NKF), American Heart Association (AHA), and National Institutes of Health (NIH)—as well as guidance from dozens of countries—was impossible to follow in real life.

As you will see, understanding what it's like to be a patient made all the difference. We can finally follow the healthiest, most proven advice from the most reputable sources. Every component here will help you get educated and learn to validate any dietary approach in 90 days or less while following the best guidance in the world.

If you stick with the program, you can keep improving for 18-24 months.

There is hope

First, I want to tell you that you do have options that may dramatically slow and, in some rare cases, stop kidney disease progression. As with anything "incurable," though, no one can make any promises.

However, hundreds of patients have tried the SKD program with success. Talking with patients every week, we get a front-row seat to spectacular achievements, mediocre results, and no results or improvements. We used patient input and results to eliminate issues that caused patients to fail. The *SKD Food Guide* and Microtrix multivitamin were developed to solve problems patients faced daily. Patient feedback combined with rapid adoption of these lessons improved success rates dramatically, and the results are repeatable across different stages and different types of kidney disease.

At this time, we know more about being a successful kidney patient than anyone else.

This book is designed to get you off to a strong start in the first 90 days of the SKD program.

Solving the big problems

I will attempt to solve the biggest problems we face as kidney patients in the next two hours. I am going to give you the following:

1. Primary education on how kidney disease progresses
2. Recommended options and guidelines for kidney disease management
3. An education on low-protein diets and how they benefit us
4. A method to rapidly validate any treatment or management plan
5. Support and education throughout the process

This book can help you develop new skills that lead to a much better outcome, but the proof will be in your blood and urine tests. As you will see, we believe in getting objective and measurable results as rapidly as possible. Objective and measurable results are needed to improve our odds and better manage our disease. Already over 500 patients who have used this program have seen documented evidence of improvement in their kidney function blood tests.

In an effort to keep this book less technical and shorter, citations are not listed. Please refer to *Stopping Kidney Disease* (2019) for studies or citations.

Be a part of a better future for all of us

"Thank you" to all those patients who have been sharing blood and urine test results with us. Your input has been invaluable to improving our options and care for all kidney patients. Your information and experience is helping thousands of patients all across the world. We all owe you a big "Thanks."

Second, please help us improve. If you are a CKD patient and using our program and products, you will get email surveys from us asking how the program is going and if you need help along the way. You will also be asked to share blood and urine test results as you move through the program. We are constantly asking for your feedback to improve care and education as rapidly as possible. This feedback is how we improved our program every year. We also need to know what is working for you and what obstacles you may be experiencing.

When you get the emails, please respond. It only takes a few minutes, and you may be helping someone dealing with the same issues you are.

For new patients or those starting to get educated, stick with me for two hours, and I will do my best to change your life for the better.

Lee Hull

CHAPTER 1

Education is the most significant factor in your outcome

Education matters

Our primary goal is to help you learn to be a kidney disease management expert.

80% of this book is about kidney disease education, while the remaining 20% is about our approach to kidney disease management.

The reason for this is **your education on kidney disease will largely determine your outcome**. Let me repeat this for effect: Your education on kidney disease will determine your outcome more accurately than any other factor. Reading this book and following its guidance will improve your outcome by helping you make better decisions through education.

We see this every day working with patients. Patients who take the time to understand the issues do much better than patients who don't. Medical doctors and nurses with kidney disease are the most successful group in our program as they better understand what is needed. However, you do not have to be a doctor or nurse to be successful—all you have to do is be willing to learn and make a few changes.

Your education on kidney disease and kidney disease progression impacts every decision you make, both consciously and subconsciously. As we get educated, we start making better choices about our health.

A fact-based and modern education on kidney disease is the single best investment you can make in your future. Fact-based education allows you to start making better decisions tomorrow in ways you may or may not imagine:

- Education gives you confidence in your decisions.
- Education helps you work closely with your physician.
- Education allows you to understand what your blood and urine tests are telling you.

- Education helps decrease the odds of needing dialysis someday.
- Education is the cure to internet craziness and bad, old, or misleading information.
- Education enables you to choose the best course of action for you.
- Education allows you to focus on the right things that have the most impact on your health.
- Education reduces emotional stress and worry.
- Education allows you to avoid old, outdated, or bad information that could harm you or cause you to take unnecessary risks.

If these benefits are not enough for you, let me add more details on other benefits of patient education:

1. It is the fastest route to change for us. We can take action ourselves and not wait for the medical community to catch up, saving us decades of valuable time. It takes 15 to 20 years for a new treatment or medical procedure to become mainstream. We can also learn to validate or invalidate almost any dietary approach in 90 days or less.
2. Assuming you visit your doctor once every three months, you spend 99.995% of your time away from your doctor or care provider. What you do during the 89 days, 23.5 hours away from your doctor determines what results from your 30-minute doctor's appointment. Your choices and decisions away from the doctor's office determine your outcome to a large extent.
3. Medical care and access are not evenly distributed in any country. Those who need help the most often have the least access to modern healthcare. Teaching a set of educational standards allows patients to prosper despite less-than-perfect medical care or access. We get calls with the same issues regardless of country. We can provide the necessary tools for less than USD 10.00 with this short guide or a free download. Everyone should have access to this kind of education no matter where they live.
4. Kidney patients have the highest out-of-pocket medical costs of any patient group. We are also likely the most expensive patient for insurance companies and governments. Teaching patients to expertly manage kidney disease results in lower medical bills, fewer doctor visits and hospitalizations, fewer comorbid conditions, and so on. Everyone wins if we can teach the patients the basics.

Clear standards and guidance

We need to set clear educational standards that patients and caregivers can use to make significant health decisions. A standard that uses the guidelines of multiple countries and reputable organizations allows patients to get educated and get measurable results quickly.

The time you invest in education will be the most critical time you spend as a kidney patient.

When patients and doctors clearly understand "why" particular issues matter, outcomes are better. A big part of this book will be "why" you should do things precisely as a kidney patient. We want to set you up for a big win in 90 days and over the upcoming years.

Each chapter will end with a brief "educational goal". This short summary is used to make sure you understand the biggest lessons from each chapter.

Educational goal:

- **Your education and understanding of how your kidneys work and how kidney disease progresses will be the single biggest factor in your future outcome.**
- **Educated patients make much better choices and medical decisions compared with patients who do not understand how kidney disease progresses.**
- **The importance of up-to-date, fact-based education cannot be overstated. Getting better always starts with education.**

Patient stories

An educational story about a doctor with kidney disease

This family doctor found that his kidney blood studies were first elevated 6 years ago.

He was sent to a nephrologist who stated that things were not too bad, and that he should keep watching the blood studies and return if they get worse.

About 2-3 years ago, his cardiologist noted that his blood studies were worse:

- BUN = 36 (normal 0-27); Creatinine = 2.0 (normal .076-1.27); GFR = 32 (normal 59)

He suggested a return to the nephrologist who was at a major medical center.

The nephrologist saw the patient and shared that that he had Stage 3 Chronic Kidney Disease (CKD). He suggested that the patient:

- Eat well (the doctor patient was already on a traditional Mediterranean diet)
- Get good sleep (the doctor patient was doing that already)
- Exercise well (the doctor patient was doing that)

The doctor patient asked what the prognosis would be. The nephrologist said that there was no effective treatment, and that in 2-3 years the patient would need dialysis and be put on the kidney transplant list.

The doctor patient went home and read the medical literature. He then checked out the lay literature and found out that recently the book *Stopping Kidney Disease* had been written. He read the book twice.

He then decided to start the SKD program, which was basically a few steps:

1. The SKD diet from the *SKD Food Guide*
2. Albutrix – a Ketoacid analog in pill form
3. Exercise

3 months after starting the program, he got an opinion from a second nephrologist from one of the top medical centers in the country.

The nephrologist drew blood studies in the morning and saw the patient in the afternoon. The nephrologist told the patient, "I don't know exactly what you are doing, but whatever it is, it's working, and your blood studies are better. Keep doing what you are doing, and return in 4 months." The doctor patient gave this nephrologist a copy of *Stopping Kidney Disease*.

The doctor patient continued on the program and at the next visit had his blood drawn again. The nephrologist stated that his blood studies were better, and advised him to keep on the program and return in 6 months.

Also, the nephrologist stated that he had read the book starting some of his patients on the SKD Program.

Subsequently, each 6 months his blood studies improved. The most current blood studies showed the following:

- BUN = 26; Creatinine = 1.27; GFR = 55

The doctor patient has now become an advocate for CKD patients to start the SKD program, as he feels the positive effects on his kidneys. As a plus, his cardiac lipid blood studies are the best that he has ever had in his life.

CHAPTER 2

Kidney disease progression basics

Most of us don't know how kidney disease progresses and the irreversible damage that occurs painlessly. Not understanding the basics causes patients to unknowingly make less-than-great decisions about their health and treatments. We will do our best to correct these misconceptions in this chapter.

Kidney basics

Every minute of every day, your kidneys are filtering toxic waste products and excesses from your bloodstream. The two kidneys together filter 50 gallons or 200 liters of these wastes per day, transforming them into urine. Your kidneys also produce hormones like erythropoietin which tells your body to make red blood cells which carry oxygen to all the cells of the body. Our kidneys regulate other hormones like parathyroid hormone, cortisol, and others.

Kidneys also help control blood pressure, remove extra fluid from our bloodstream, and keep bones healthy by regulating vitamin D, calcium, and magnesium. The kidneys also maintain pH or acid/ alkaline levels to stay in the optimal range.

Kidneys are the second most vascular organ in your body after your heart and get 20% to 25% of your heart or cardiac output. Because so much cardiac effort is devoted to the kidneys, kidney disease and heart disease are intimately tied together, as you will see later.

Kidneys are a large part of our body's system that keeps us in the optimal ranges. As our kidney function drops, it gets harder and harder for us to stay in the optimal or normal ranges.

Our kidneys perform functions that affect many different parts of our bodies. For this reason, kidney disease is a systemic disease often affecting us in unexpected ways. If we lose the ability to filter and excrete these toxic wastes, death occurs in a few weeks.

Once kidney damage occurs, it's permanent in almost all cases. Kidneys do not regrow or heal as other organs might. Once you have lost kidney function, it's lost for

good. This is why early intervention is so incredibly important to us as patients. We need to stop or slow damage before it occurs. This book is about understanding how this damage progresses and how to slow or stop it.

A simple way to think about kidney disease progression

After speaking with hundreds of patients, thinking of kidney disease as a disease of "excesses" is the most helpful.

As our kidney function declines, it becomes harder and harder for our kidneys to excrete "excesses" or maintain normal levels. These "excesses" are a primary driver of kidney and heart disease. The excess amounts of waste products, vitamins, or minerals build up in our bloodstream, causing damage to our entire body, not just our kidneys.

Excess blood pressure, excess weight, excess blood urea nitrogen, excess sodium, excess protein intake, excess phosphorus, excess calcium, excess vitamins, excess oxidative stress, and so on can lead to faster kidney and heart disease progression. Yes, other issues may exist, but excesses cause the majority of kidney disease progression.

Allowing our levels to rise outside the normal ranges unknowingly accelerates both kidney and heart disease progression. I will use blood urea nitrogen or BUN as an example. BUN is on almost every blood test, so many patients are familiar with it. BUN is also very closely related to our current diet versus our current kidney function, so it is an excellent tool for educating patients.

Blood urea nitrogen (BUN) measures the toxic protein waste — known as "urea"— in your bloodstream. When you consume dietary protein of any kind, your liver breaks the protein down so that the body can use it. The leftover protein waste products are supposed to be removed by your kidneys. However, when you consume more dietary protein in 24 hours than your kidneys can filter and remove, then your BUN levels start to rise outside the normal range. The more days this happens, the higher BUN levels rise as toxic waste products accumulate. Remember, the entire reason dialysis was invented was to remove these toxic waste products. If we do not remove these waste products, we will die in a matter of weeks. Decreasing BUN is also one of the primary goals for a low-protein diet and dialysis.

Now let's look at the implications of not controlling BUN levels as an example of excesses.

Fact 1

BUN levels above the normal range increase the rate of kidney disease progression, meaning your kidneys will fail faster. BUN levels are predictive of your future odds, as patients with the lowest BUN levels have the best outcomes.

Note: The same is true of many other tests like creatinine, sodium, phosphorus, etc. Other issues we don't think about — like high calcium levels — also predict mortality rates. Non-dialysis patients with high calcium levels have a 31% higher mortality rate than those with normal calcium levels. I will use BUN going forward to keep things simple, but I wanted to remind you the concept of excesses applies to all kinds of issues, not just BUN.

Fact 2

BUN not only is a measure of kidney disease progression but also is a predictive factor for future cardiovascular disease.

Fact 3

Increased BUN levels are a predictor of long-term mortality rates for older patients who are medically stable.

Fact 4

As we get older, we are more likely to be hospitalized. BUN levels predict mortality rates for critically ill patients as well.

Fact 5

High BUN levels are associated with an increased risk of diabetes. High BUN levels may increase insulin resistance and suppress insulin secretion.

Fact 6

High BUN levels are associated with increased COVID-19 severity and higher COVID-19 mortality rates.

Fact 7

High BUN levels are even associated with worse outcomes for older psychiatric patients.

Fact 8

Early changes in BUN predict mortality in acute pancreatitis (inflammation of the pancreas).

Fact 9

Stroke patients with high BUN levels have increased mortality rates and worse outcomes.

Levels matter

Everywhere we look, we find bad things happen if our BUN levels go higher than normal. Kidney and heart disease are accelerated, and our odds of dying go up over both the short and long term. High BUN levels affect multiple parts of our body. As one study said, **BUN seems to be "an indicator of overall or global health of the patient."** Remember, kidney disease is systemic, affecting unexpected parts of our bodies in many cases. BUN levels can predict our outcomes for an incredible number of conditions. Lowering BUN levels appears to affect our outcomes significantly, just as letting BUN levels rise unchecked hurts our outcomes.

While we are thinking about "excesses," we need to ensure this is the right way to think about kidney disease. I always like to cross-check our logic or facts to ensure we are correct.

Do any other facts support the idea of "excesses"?

Capacity approach

If our kidneys function at 25% of the normal rate with kidney disease, we have to reduce the workload by 75% to get our blood work back into the normal range. We see issues related to our capacity all the time on our other kidney blood tests: GFR, BUN, creatinine, and so on. Kidney disease care is primarily based on testing our current ability to remove excess wastes. The primary reason dialysis was developed was to remove toxic excesses.

Future outcomes

Predicted mortality rates for kidney patients are largely based on excesses. A long-term pattern of increasing excesses is strongly predictive of a bad outcome. A long-term pattern of stable or decreasing levels of excesses leads to the best outcomes. That is exactly why our program's intent is to have you decrease these excesses. You will see this theme repeated many times in this book. Your blood/urine will tell you if you are getting better or getting worse.

Excesses lead to bad outcomes

We should point out that going lower than the standard ranges for tests also increases risks. However, excesses are usually the more challenging part for kidney patients to keep in check — more about this in the next chapter.

The more excesses you have, the more severe the excesses, and/ or the longer these excesses persist, the faster irreversible damage accumulates.

I want to repeat this for effect:

The more excesses you have, the more severe the excesses, and/ or the longer these excesses persist, the faster irreversible damage accumulates.

If you learn nothing else from this book, this may be the most important.

Seatbelt analogy

A regular part of aging is an increased number of surgeries, hospital visits, and so on. If you have high BUN levels going into surgeries or other life-threatening medical conditions, your previously ignored high BUN levels will predict your outcome to a large extent. The sicker we are entering a surgery or medical procedure, the worse our outcome might be.

In this example, think of getting your BUN levels (and all levels) back into the normal range like wearing a seatbelt. We wear seatbelts because we can't predict when an accident will happen, and we want to be protected if and when that accident occurs. It's also hard to predict what medical issues we will have in the upcoming years, so keeping your BUN levels in the normal range is a great way to stay protected when other health issues arise.

Educational goal:

- Understand that the number of blood/ urine tests you have outside of the normal ranges and the severity of those excesses or lows are strong drivers of both kidney and heart disease progression.
- These tests will be a very strong predictor of your future outcomes.
- Failure to keep things in the normal range increases the speed of kidney and heart disease progression and the irreversible damage to our heart and kidneys.
- You should take any test outside the normal range very seriously and take steps to correct any out-of-range numbers immediately.

Patient story

David's story

My name is David. I'm 63 years old. In March of 2018, However, after I noticed three little arrows on my test results for GFR, creatinine, and BUN. So after I met with my doctor, he wasn't concerned about those numbers. So I decided to see a kidney doctor, and after meeting with him, he wasn't concerned about those numbers either. My next test results came in September of 2018, and now I was very concerned, because my GFR dropped to 51. Now both of my doctors had no solutions. They had no advice for treatments. They were not concerned. So that's when I started to do my own research, and eventually I came across Lee Hull's book and I started reading it online.

My story's a little bit different than most people's. My mother was admitted to the hospital when she was 87 for kidney failure. I retired early so that I could take care of her, and I took her in for dialysis every week for four years until she passed away. After being in that center for those four years, watching the horrors, the pain, and the sorrow of going through dialysis, I decided I was never going to go into a dialysis center ever again. So one year later, that's when I found out that I had kidney disease. So in October 2018, I decided to go on a strict diet proposed in Lee Hull's book. I figured I had nothing to lose, and my next blood test came in December 2018, and my results were very positive. My GFR went from 51 to 59. My creatinine went down from 1.49 to 1.23. In March 2019, my results were even a little bit better. My worst GFR was 51, and five months later on the diet, my GFR went up to 60.

My worst BUN number was 29, and five months later on a diet, it improved and dropped to 14. Then my worst creatinine number was 1.49, and five months later on the vegan diet, my creatinine dropped to 1.22.

My concern is why the doctors aren't concerned about my kidney disease in stage two, or even in stage three, even after going on a diet which greatly improved my numbers. They didn't even seem to care or be interested in why those numbers change. I think that the doctors just figure that when the numbers get really bad, they'll just put me on dialysis and that's their solution, but that's not acceptable for me.

I'm hoping that someone can do something to change the doctors' minds so they can help people like me before they go to dialysis centers. I think it's so simple. If you can just go on a diet and you can improve your numbers, why aren't more people doing that, or why aren't they being informed that they can do that?

I did a lot of research. I couldn't find any other help. No answers. His was literally, as far as I can tell, the only thing I could find. I've seen the horrors of being in a dialysis center six hours a day, three times a week. I saw the bills. When you're on dialysis, you're on a very strict diet. So if you end up there, you're going to be on a very strict diet. So for me, it was really simple to go on a diet. I think Lee Hull's book makes that point really clear, and seeing the results of my numbers coming down makes it really clear to me that it really does work. So the thing that I wanted to say to people; It's better to do it Lee's way than the dialysis way. I think that's really important for people to understand, and it's not that hard.

CHAPTER 3

Staying normal or stable is our goal

When we fight the disease of excesses, our real goal is straightforward. We need to get our blood and urine tests back into the normal ranges. This fact seems too easy to many, but it is 100% true. The hard part is managing all of the restrictions required to get your blood work back into the normal range.

Our bodies only work well in a very small range. Going higher or lower than the optimal ranges will increase the odds of a bad outcome. "Normal" keeps us in those small ranges where everything is optimal and not hurting us, resulting in the slowest possible kidney disease progression. "Normal" is the key to slowing kidney and heart disease progression. Look at any blood test, and you will see a small range of normal values.

Using BUN again, we can see the normal ranges are:

- 7 to 24 mg/dl (USA)
- 2.1 to 8.5 mmol/l (everywhere else)

Healthy patients can expect normal outcomes as long as everything is in the normal range. It's the same for us as kidney patients: normal ranges keep our bodies working like normal as long as possible. We may not have the same outcome as a healthy patient, but the data shows kidney disease progression is dramatically slowed for kidney patients with normal ranges compared to those who let excesses build up.

It is that simple, but it's tough to see with the recommendations we get from the internet, other doctors, national organizations, or even other people with CKD.

We need clarity on many issues.

The recommendations we get are vague. Here are some examples we see weekly:

- "You might want to limit salt."
- "You might want to limit protein intake."
- "You have no options except dialysis someday."
- "Let's just monitor things for now."

Again, I am a patient and have very strong feelings about this kind of advice. We need clear guidance on exactly what to do, not suggestions. We need to get everything back into the normal range, just like everyone else. We need to know what to do and how to know if it's working or not. We should not act on a vague suggestion.

My point here is we need very clear guidelines to eliminate guessing and randomness. Guessing and random approaches likely kill more kidney patients than anything else. We need precise measurements and goals that you as the patient can understand.

Normal cuts the head of the snake

"Cutting off the head of the snake" is a saying that refers to dealing directly with the source of the problem, not the symptom. We should always think about this concept and go after the source of our issues, not the symptoms. If we can target the source of our problem, we may not need other drugs, and we can improve in different ways.

Dietary interventions go directly to the source of our problems by reducing intake to a level our kidneys can handle and by moving us back into the normal ranges. If we lower the workload enough, we can get back into the normal ranges or very close.

Our program and its success with hundreds of CKD patients and the current medical literature has shown that the only thing that can reduce excesses is by changing your diet (details will follow). Drugs cannot normally reduce things like BUN or creatinine or improve GFR meaningfully. Therefore, they may not help CKD patients trying to bring these numbers back into the normal range.

Let me give you a few examples to illustrate why this issue is essential.

Uremic Pruritus

Patients frequently ask if our program will help with itching. Uremic pruritus, also called "chronic kidney disease-associated pruritus" or "uremic itching," is very common, affecting 30% to 50% of kidney patients. Persistent itching drives patients crazy over time. The standard treatments are steroids and antihistamines to reduce itching symptoms.

The cause or "head of the snake" is high blood urea nitrogen or BUN levels. When patients go on the SKD program, uremic itching is dramatically reduced in a few weeks. No steroids or antihistamines are needed because we treated the cause of the problem. Each patient will be different, but so far, out of all patients surveyed, uremic itching improved or disappeared altogether.

Two lessons for us:

- In many cases, we can target the source instead of the symptom.
- This is a reminder that kidney disease is systemic. We don't think about waste products in our blood when our skin is itching.

Acidosis

Acidosis is a driver of kidney disease progression. Patients can take sodium bicarbonate to reduce acidity levels and move pH levels back into the normal range. The problem with this approach is increased sodium intake is not recommended for kidney patients. Going against current recommendations makes no sense when trying to get better.

However, renal acid load on the SKD program is alkaline to offset acidosis risks. Every recipe has a potential renal acid load (PRAL) listed. If we eat an alkaline diet, our body's natural bicarbonate stores can increase for up to two years and maybe more.

By eating smart, we never need sodium bicarbonate or to go against guidelines. Sodium bicarbonate treats the symptom, but it is not the cause of our acid problems. We can use natural bicarbonates from alkaline diets instead of supplemental sodium bicarbonate.

If we target the source, we can limit the damage and get rid of the symptoms by getting back to normal ranges. If we just treat the symptoms, irreversible damage may still be occurring or may cause other problems.

Always try to treat the source of any issues, not just the symptoms. In many cases, kidney disease treatments solve one problem but create another risk, which is a fool's game.

Nutritional brick walls for kidney diets

While dietary changes are the most direct action we can take to improve our blood/urine tests, past approaches set us up for malnutrition risks in every case we studied. The other issue is past approaches do not reduce kidney workload enough to change our outcome. Reducing the workload on your kidneys by 10% when your kidney function is reduced by 70% doesn't work. Malnutrition risks combined with no measurable benefits have stopped kidney diets from becoming a mainstream approach.

Traditional kidney diets that were found in books or articles written over 5 years ago that only manage sodium, phosphorus, and potassium are now obsolete and not recommended if you want to improve.

To date, we have never analyzed a kidney diet that provided 100% of the RDAs. All diets we studied provided 100% or more of the RDA for some things and dramatically less for others. It's unknown, random, and not the way to approach kidney disease management. The sad truth is no one knows or has taken the time to calculate these values or develop an approach that reduces the risks of excesses and lows.

Malnutrition issues have the most significant impact on quality of life, and malnutrition is also the number one cause of hospitalizations for kidney patients. Malnutrition is also related to mortality rates and outcomes. For these reasons, malnutrition risks cannot be ignored.

The importance of addressing malnutrition issues cannot be overstated enough

Unless we have a specific dietary restriction, we need to get the recommended daily amounts (RDA) of everything. Any attempt to move your blood and urine tests back into the normal range must also provide the recommended daily amounts (RDA) of vitamins, minerals, protein, and so on. Without complete nutrition, any attempt to do so may not be worth the risks. Solving one problem while creating another is one of the main reasons kidney diets have a poor track record. The catch is we cannot create excesses in an effort to meet RDAs. We will show you how to solve this later in the book.

Not measured despite risks and guidance

In real life, getting the RDAs of amino acids, vitamins, and minerals is impossible with traditional approaches. The hard part is most of the RDAs do not show up on a routine blood test. For example, vitamin A is rarely — if ever — tested, so we don't know if we are high, low, or just right. This can be a problem since Vitamin A can build up in our bloodstream and cause vitamin toxicity, especially in stage 5 CKD patients. A full vitamin panel costs $450.00 in my area.

The same is valid for vitamin E. We need vitamin A and E to be healthy, but we also need to ensure we are not getting more than our kidneys can handle.

Excesses of supplemental calcium, vitamin D, iron, and B vitamins can also cause issues. Excess supplemental calcium increases our risk of dying. Excess vitamin D intake can damage our kidneys and increase our odds of cancer. Excess B vitamin intake has been linked to faster progression of kidney disease in certain groups of patients. Therefore, it is very important that if you take a multivitamin or calcium, you know that you have to prevent excesses.

However, in 100% of the kidney diets we studied, vitamin A, vitamin E, and B vitamin content is completely unknown. How are we supposed to deal with these unknowns and stay in the normal ranges? It's not an issue we can ignore or solve by ourselves as patients.

Randomness and unknowns can lead to getting 500% or more of some RDAs and less than 50% in others when vitamins and supplements are included. We concluded long ago that guessing your way to 100% of the RDAs is a statistical impossibility.

This approach is not acceptable or recommended if we have a disease of excesses.

Educational goal:

- Dietary changes are the most direct method of improving your kidney-related blood/ urine tests.
- Reducing intake to a level our kidneys can handle results in normal or closer to normal blood/ urine tests.
- Malnutrition is very common in kidney patients and a predictor of future outcomes.
- Any dietary intervention must provide RDAs while limiting the workload on our kidneys and eliminating excesses and unknowns.
- Precision is needed, not randomness, unknowns, or going against modern guidance.

CHAPTER 4

Heart disease is part of kidney disease

Kidney disease has been called a "perfect storm for heart disease." Heart disease is the number one cause of death in the world. It is also the number one killer of kidney patients, with vascular calcification appearing as the most common actual cause. Kidney disease patients are at a higher risk for heart disease than any other group ever studied — a very sobering fact. By the time kidney patients need dialysis, 80% of those patients have some form of heart disease.

While heart disease may be the actual cause of death, the real driver of heart disease is often kidney disease. Many heart disease deaths can be traced back to kidney disease starting many years earlier.

High calcium and phosphorus levels combined with a reduction in the normal calcification inhibitors lead to accelerated heart disease and soft tissue calcification. High calcium and phosphorus levels are due to too much dietary or supplemental intake combined with reduced excretion. High or low potassium levels may also cause heart-related issues. Other factors like oxidative stress also increase rates of heart and kidney disease. We let these excesses go for too long, leading to irreversible damage.

In 2017, the NKF reduced the amount of recommended calcium intake by over 50% due to the risks of increased mortality rates and accelerated heart disease from too much calcium intake. Therefore, be careful when you are taking any over-the-counter calcium supplements or calcium-enriched foods, such as milk.

Part of any kidney disease education must address heart disease or future heart disease risks. While we are kidney patients, we unknowingly are heart disease patients. While we may not be diagnosed with heart disease today, it is very likely in our future. We should be working on reducing current and future heart disease risk just as hard as we are working on kidney disease.

Stage 3 and 4 patients need to reduce the risks of future heart disease today. Many of the recommendations made to kidney patients may accelerate heart disease progression, so we have to be very careful.

80% of stage 5 patients have heart disease, but heart disease starts progressing in stage 3 and accelerates in stage 4. The place to address the number one killer of kidney patients is stage 3 and 4, so if we hit stage 5, we are in the best possible health

and have not been accumulating so much irreversible damage. Aggressive interventions in stage 3 may mean you may never hit stage 5.

Both blood pressure and resting heart rate are predictors of kidney disease progression. When you think of kidney disease management, you should always be reducing future or current heart disease risks today.

Any interventions or treatments should also try to minimize the chances of heart disease, especially calcifications.

Educational goal:

- 80% of stage 5 patients have some form of heart disease.
- Heart disease starts progressing in stage 3 and accelerates into stage 4 as more tests are outside the normal ranges.
- Vascular calcification is the number one killer of kidney patients.
- We must manage heart disease just as hard as we are working to manage kidney disease.
- We must avoid any risk factors that might increase the rate of heart disease progression like having high calcium intake, high blood pressure, and a sedentary lifestyle.

Patient story

Art's story

Hi, my name is Art. I'm a 71-year-old CKD patient now. Prior to being referred to a nephrologist, I had talked with my primary care physician about my worsening kidney function, but there certainly wasn't any sense of urgency about my numbers. By June of 2018, however, that changed when my creatinine levels had risen to 1.97, and my EGFR had dropped to 34.

My first nephrologist confirmed that I had moderate stage 3B kidney disease. I was told that CKD is not likely to be reversible. He stated also that dialysis would definitely be figuring into my future. So that was essentially my wake up call. This began my research on CKD, and this is how I stumbled across Lee Hull's book, *Stopping Kidney Disease*. I read through his advice, but I didn't act on it immediately because I was in the process of finding a replacement nephrologist. However,

in May of 2019, I met with my new nephrologist and my labs showed a huge creatinine increase up to 2.26 and an EGFR of 28, so clearly, something had to be done.

I met with my nephrologist and simply told him that I was going to be taking Albutrix, explaining that it was a low-nitrogen protein supplement, and that based upon my eroding kidney function, I had nothing to lose. Well, the very next day I began taking Albutrix, and I've largely eliminated animal protein from my diet.

So after just 70 days of taking Albutrix as a dietary supplement, my blood labs showed that my creatinine levels had dropped to 1.75 and my EGFR rose to 39. A week later, I went back to my nephrologist's office and had his labs done. They showed that my creatinine level had increased a bit to 1.89 and my eGFR was at 35, but that I think might be due to the fact that for the first set of labs, I fasted and I hydrated a bit. Nevertheless, even if I take an average of those two tests, it shows that I've got an 18% of improvement to my creatinine and a 27% improvement in my EGFR in those 70 days. In other words, my eGFR improved in just over two months to where it was almost two years ago. For an irreversible disease, this movement is nothing short of miraculous.

I maintain a total daily targeted goal of 56 to 62 grams of total protein each day, but that's typically around 28 to 32 grams of dietary protein and 28 to 32 grams of Albutrix. I eat less acidic food, and because of that, I don't suffer from acid reflux like I used to.

Of all the information that Lee provided in his book, I found the explanation of how Albutrix gives my kidneys the extra margin that's needed for relief to be the most important. And for me, this was the aha moment. There are also food summary charts in his book that helped me identify what foods I should avoid.

Now, jumping into a low-protein diet certainly isn't easy. Throughout this journey, I keep reminding myself of the alternative, and for me, dialysis just isn't an option. There's no choice but to persevere. I found that you've got to be your own advocate. Do your own research. I would highly recommend reading Lee's book, *Stopping Kidney Disease*, and other medical papers that are available online. If they are willing, have a heart-to-heart discussion with your primary care physician and your nephrologist about what you found and the direction that you'd like to take. Draw your own conclusions, act on those choices, and stick with it.

CHAPTER 5

Ride or die: We are in this for life

We are kidney patients for life whether we like it or not. We have to learn to live with kidney disease successfully or our predicted outcomes are not good.

"Ride or die" is a phrase used when someone is exceptionally dedicated or loyal to a person or cause. Incurable kidney disease is for life, so it's a "ride or die" issue — whether we like it or not. This phrase comes from a CKD patient who is a motorcycle buff. "Ride or die" is a phrase he likes to use when talking about this view of kidney disease management.

Incurable kidney disease is a slow-moving, painless killer that takes years to move from diagnosis to dialysis.

If we don't learn proper kidney disease management, our lives will be much shorter and lower quality. We as a group are "ride or die" in many ways. However, a more proper phrase might be "learn or die early."

Jumping in and out doesn't work

Like any dietary approach, patients tend to start and stop frequently. However, the implications are very different for us compared to trying to lose a few pounds after New Year's.

Let's be clear about what is required for us "ride or die" types. Doing anything for one month will not likely change your long-term outcome. Kidney disease progresses slowly, silently, and painlessly, so one month out of the next ten years is pretty much meaningless. I know this can be depressing, but we need to understand the facts.

We need to keep our tests in the normal range for years while getting our RDAs, not just for a month or two. Don't stress: we will show you how to handle this issue later. It's not as hard it sounds and pretty easy once you get the hang of it. In addition, there are lots of other benefits to doing it this way, too.

Dietary perfection is not required, but **a long-term commitment to stay in the normal ranges is required**. I have fallen off the dietary wagon more times than I can

count, but the secret is to get back on the program right away. Life happens and gets in the way sometimes. Tomorrow we can start again.

Change is hard for all of us

I have often wondered how we convince patients to make a change they don't want to make, no matter how good it might be for them.

Dying 20 years early, having lots of medical problems/ expenses, and feeling bad all the time is not enough evidence for most patients to make a change. We are still working on doing this better. We do know that getting you educated is the first step.

If your blood or urine tests are outside the normal range for long periods, you are slowly digging your own grave. Your current blood work is predictive of what will happen to you in the future and how fast it will happen.

If we have done things a certain way for years, it's hard to change. If you have eaten the same way for 65 years, change takes effort. However, it may be because you have eaten a certain way for 65 years that you have problems today.

Your blood and urine tests will tell you what you are doing right and wrong today. Listen to these tests so you will not have more problems in the future.

If we don't learn, we suffer needlessly

I view being "ride or die" as a badge of honor and not as a bad thing. We are a tough group beating tough odds, and it takes some work. We should be proud of our ability to change our outcomes and chart a better course in life. Do you want to be active, do you want to play with your grandkids, and do you want to have fun as you age? Well, when you have CKD you can do all of these things if you are willing to change your eating habits and exercise regimen. It's a hero's journey in many ways. I don't feel like we should apologize to anyone for this fact.

My outcome was changed, and my life is better today because I became educated. We see this every week. You will have to learn new skills over time, but every journey starts with the first step. Change is a chance for us to be with our families for many more years and have a high quality of life. The road to hell (or worsening kidney disease) is doing nothing and not learning.

For me, beating or slowing kidney disease has always been about family. After my sister was killed in a car crash at 29, we all felt the pain, but I also witnessed what it

did to my parents. The pain of losing a child scars us for life. I told myself my parents would never bury another child. My goal at the time was to outlive my parents no matter what it took. Later, when my daughter Carlee was born, I was spurred on further to keep trying until I found an answer. We need to find reasons to live to stay focused.

The easiest route is to be set in your ways, never change, and do nothing. If we put our heads in the sand and ignore slowly worsening blood/ urine tests, your outcomes will not be good. This route is the road to a very bad outcome. Changing things for the better takes courage, work, insight into our disease and a will to live.

Talking with thousands of patients is very telling. I have never heard a patient say:

- "I am glad I didn't do anything to treat this earlier."
- "I can't wait to be on dialysis."
- "If I had to do it over again, I would still do nothing."
- "I always wanted to wait years for a possible transplant."

Patients are always telling us the opposite:

- "I wish I had known about this sooner."
- "I wish I had tried more treatments and been more proactive."
- "I should have taken steps much earlier to deal with this."
- "I knew I wasn't taking good care of myself."
- "I shouldn't have waited until dialysis before acting."

Regret is the most common sentiment.

The lack of patient education and no action equals:

1. More suffering
2. More stress
3. More medical bills
4. A much lower quality of life
5. Most likely, a shorter life

Fighting kidney disease is a much happier place mentally and emotionally compared with giving in to a slow decline towards dialysis.

Stopping the damage as soon as possible

While we are on the subject of time, let's talk about dietary results. We want fast and rapid improvements. Tiny changes to our diet lead to tiny changes in our blood and urine tests. More stringent diets can lead to fantastic gains but are not sustainable over the long term.

Since kidney damage cannot be reversed, our primary short-term goal should be to stop or slow irreversible damage as rapidly as possible. This is the only approach that makes sense given the circumstances.

Patients are often advised to go easy into a diet or go slowly with just a few restrictions. This advice is well-meaning but dead wrong based on everything we know about kidney disease progression and kidney disease damage.

It's a real problem and another reason why most kidney diets do not show meaningful results. We need a logical method to change our lifestyle and diets to get short-term improvements and long-term sustainability. Our long-term goals are the opposite of our short-term goals. We want easy diets today, but these diets don't help us live longer.

Later in the book, we will show you how to reconcile these goals to get both or as close as we know how to in 2022. We will also show you what worked and what did not work.

Educational goals:

- We are kidney disease patients for life whether we like it or not.
- Ignoring this reality leads to very bad outcomes.
- Short-term flings don't work.
- We need permanent — but not perfect — changes to manage our health, diet, and lifestyle to have the best outcome.
- For most of us, we will not take this seriously until something bad happens. Please learn from my experience and the experience of other patients.
- **Act today to start slowing your disease.**
- **Please, please do not wait!**

CHAPTER 6

Early dietary intervention substantially improves your odds

One of the strange aspects of kidney disease management is that early intervention is rarely practiced. We are mostly told to wait until dialysis or transplant, and few, if any, other recommendations are given except to monitor our decline.

Is kidney disease somehow different from every other disease known to man? The answer is no. If you look at the history of kidney disease treatments, you will find that once dialysis use was approved and accepted, the search for other treatments appeared to slow dramatically. This may be changing due to the cost of dialysis, but only time will tell.

Dialysis is needed, life-saving, and a modern miracle in many ways. However, it is not how most of us want to end up if we can avoid it. The five-year survival rate for dialysis patients is 35%, while diabetics on dialysis have a 25% chance of survival over five years.

The lower survival rates are not because of dialysis itself. The main reason is that by the time we reach dialysis, we have been accumulating irreversible damage and more comorbid conditions for many years. Objective measures of health have normally been declining for years by the time dialysis is needed. We have been getting sicker year after year for a long period by the time we need dialysis.

If we are diagnosed with heart disease before starting dialysis, our odds of survival are very poor. Remember, heart disease started years ago in stages 3 and 4. How we handle kidney and heart disease early on sets the stage for what will happen to us later.

The question is: Can we really change our outcome?

Yes, multiple studies show that dietary interventions and change with education can reduce the odds of dialysis. **Some studies suggest that the odds of dialysis can be reduced by over 300% over a ten-year period.**

If we have a disease of excesses, and excesses are driving both kidney and heart disease progression, then the earlier we intervene, the better. No data we could find suggests that waiting to treat or manage kidney disease leads to better outcomes.

Large-scale studies over decades have proven that diet, exercise, and lifestyle changes can improve your outcomes for heart disease, type 2 diabetes, stroke, and even some forms of cancer. The same is now true for kidney disease.

Changes become habits you never think about

My BUN levels stay around 7. The normal range is 6 to 24 mg/dL. I haven't thought about my BUN levels for years, as my habits have changed enough over the years to keep it low. Although it was a struggle early on, it actually became easy once I established a routine and understood how diet affects the measures of kidney function.

In many ways, the struggle is not with kidney disease itself. The struggle is with ourselves. We need to change our habits long enough that they become permanent. If you will spend the next year or two on the program and learn how to manage your disease, you can go decades without ever thinking about your BUN levels, as your new lifestyle has become second nature.

If you will take this seriously, you will build kidney disease management skills for life. **Everything is easy after the first month as you already have new skills by the end of the first 30 days.**

You can make a big change in your odds of dialysis

The vast majority of kidney disease care and guidance is focused on stage 5 and dialysis patients. These are the sickest patients with the highest risk of dying, so this priority makes sense. However, if early interventions started in stages 3 and 4, the number of patients on dialysis or transplant lists would drop every year as more patients and caregivers adopted an early intervention to kidney disease.

If we get educated and start managing kidney disease early in stage 3, everything is in our favor. The benefits include:

1. We can have less restrictive diets
2. Make fewer lifestyle changes
3. Move blood work back into the normal ranges relatively easily
4. Slow heart and kidney disease progression

5. Likely defer dialysis for a decade or more
6. Stopping or slowing irreversible damage to our kidneys and heart if we start early and keep everything in the optimal ranges

We can document this fact by looking at the odds of dialysis over ten years between patients who made no nutritional changes and those who got educated and used nutrition to manage kidney disease.

For those who made no nutritional changes, medical studies have found:

Stage of kidney disease	Odds of dialysis in 10 years
Stage 3	70%
Stage 4	100%
Stage 5	100%

Averaging these results gives a 90% chance of being on dialysis in ten years if we don't change how we manage kidney disease. My hope is this is your wake-up call, and that you will connect the dots about how what we do today affects what happens to us down the road.

In contrast, patients who participated in nutritional therapies and made dietary changes significantly changed their odds over a ten-year period.

Stage of kidney disease	Dialysis odds within ten years
Stage 3	347% less likely
Stage 4	345% less likely
Stage 5	136% less likely

Stage 4 patients go from a 100% chance of being on dialysis over ten years to a 345% reduction of being on dialysis, a 445% total change in outcomes. This is an amazing fact for an incurable disease. If you want more proof that kidney disease is a disease of excesses: here it is. Early and aggressive dietary intervention needs to become standard and mainstream starting on the first day of diagnosis in 2022.

Early and aggressive interventions give patients the best odds for every other disease or condition. Kidney disease is not an exception. We see this every day in our work. Patients can improve for many quarters in a row, oftentimes in ways we never imagined.

Kidney disease is systemic and often affects parts of our bodies we don't expect. We have witnessed that interventions improve all kinds of issues other than just kidney-related issues.

It's a very sobering thought when you combine the odds of dialysis with mortality rates for dialysis patients. This means a good number of patients reading this have fifteen years or less left if they don't make changes today.

Unfortunately, change in the healthcare system happens slowly, and while the NKF made a new recommendation in 2020, we have yet to meet a nephrologist who was aware of this change in 2022. Yes, it's only two years, but two years is a long time for us depending on how sick we are. Other changes in 2017 have still not been integrated into mainstream medical care.

Therefore, staying up to date, using factual data, validating your approach and progress, and pursuing the most recommended treatments as early as possible will give you the best outcomes.

I will close this chapter with the old saying "If you don't have your health, you don't have anything." Early intervention upon diagnosis will lead to the best possible outcomes for all diseases including kidney disease.

Educational goal:

- All diseases normally benefit from early and aggressive intervention. Kidney disease is no exception.
- Education and changes in long-term diet, exercise, and lifestyle can significantly improve your health and reduce your odds of dialysis.
- Odds are close to 100% that we will end up on dialysis in ten years or less unless we learn to make changes to our diet and lifestyle today.
- Early intervention should become a standard practice for kidney disease management.
- Therefore, it is time for you to get started NOW!!

CHAPTER 7

Out-of-date information leads to greater risks and worse odds

Before we dive into treatment options, I wanted to talk about the risks of disregarding current recommendations. Many patients we speak to have strong ideas on what they should be doing or not doing. The problem is they are going against modern guidelines or just plain guessing with no evidence.

The same is true for companies advertising products that go against current guidelines. Every week patients ask us who to believe: a company making kidney disease-related promises on the internet or the NKF. It's very easy to separate real products from scams or questionable products when you know how to read a label and look up guidance.

It's fair game to try experimental or unproven therapies when you have an incurable disease, but it should only be after you have tried the most recommended therapies first.

Reputable guidance

Reputable disease-related organizations like the NKF and AHA periodically issue recommendations for disease management and treatment guidelines. Most countries also have a health-related organization like the NIH. You should understand these organizations are very, very conservative. If they make a recommendation, you can bet they have an incredible amount of studies to back up that recommendation. Every recommendation has been researched and debated, and every study is cited. These groups don't go out on a limb or take chances with recommendations.

On the one hand, ignoring guidelines designed and researched to improve our outcomes is plain crazy. On the other hand, it has been impossible to follow guidelines in the past. It has always been a catch-22 until now. This is one of the problems we have tried to solve with our program.

Our odds of doing better than these well-researched recommendations would be lottery-type odds, millions to one. If caregivers and companies go against these

guidelines, you should look elsewhere for help or proceed with extreme caution. Exceptions always exist, but they are very rare.

Going against recommendations can change your outcome more than you might imagine.

Modern science–not marketing–should drive your decisions

Protein and calcium intake are the two biggest educational problems we encounter. Patients worry about not getting enough protein or calcium based on marketing and not science. Well-researched and documented RDAs exist for almost all of the issues we need to consider, and substantial evidence exists across studies of over 10,000 patients in many cases.

These decisions can hurt us in unexpected ways. We need to be open-minded enough to look at the facts and be willing to validate anything we do. Exact RDAs exist, and there is broad agreement on essential amino acids, vitamins, minerals, fiber, protein, and so on. There is no need to guess or wonder about these amounts — we can look up the answers. Most importantly, you don't want to increase your odds of dying prematurely.

Change and updates should be expected

Many options used today are outdated, as newer research (within the last 3-5 years) proves that past standards can be harmful or have no effect on our disease. This issue happens all the time as science and technology advance each year. We should expect to update our approach with more recent and better guidance over time.

Some of these changes may dramatically affect our future outcomes. I will use calcium as an example. Calcium supplements are available in every country and are one of the best-selling supplements in the world. We are all familiar with calcium supplements, so educating patients on these changes and risks is a good example. This issue is nuanced as two types of calcium exist: dietary calcium from foods and supplemental calcium from supplements, phosphorus binders, vitamins, keto acid blends, fortified foods, and so on. One is good for us, and one may increase our risk of dying.

Dramatic reduction due to risks

The past RDA for calcium was 2,000 mg per day. Supplemental calcium was considered safe, and many products developed for kidney patients were calcium-based, such as calcium-based phosphorus binders and calcium-based keto acid analogs.

In addition, it was assumed every patient was stage 5 and might benefit from supplemental calcium in the 1970s. Remember, early intervention was never practiced in those days. It made perfect sense to make products for stage 5 and dialysis patients, as nothing was done for stage 3 and 4 patients.

However, as of 2017, supplemental or high calcium intake is no longer recommended by the NKF as it is linked to increased rates of heart disease, stroke, gastrointestinal issues, kidney stones, soft tissue calcification, cancer, and death, depending on the study. In fact, every organization and country in the world has dramatically reduced their RDA for calcium over the past decade. This RDA includes total daily calcium intake from all sources, including dietary intake, fortified foods, calcium supplements, phosphorus binders, keto acid analogs, antacids, and so on.

These lowered calcium recommendations are for both healthy patients and kidney patients. The NKF published guidance stating that supplemental calcium should be avoided if it causes you to go over the upper limit of 800 to 1,000 mg per day. **Going over this limit can increase calcifications, risk of heart disease, and risk of death in kidney patients (NKF 2020 KDOQI).** When an organization like the NKF states that something increases heart disease and our risk of dying, we need to listen.

Let's stop here and look at what happened:

1. Multiple countries and reputable organizations reviewed hundreds of published medical studies, and expert groups debated the risks of supplemental or excess calcium and decided it increased our risks of dying.
2. A 50% to 60% reduction in calcium intake was recommended in 2017.
3. This new recommendation reversed many decades of standard practice and made products with high amounts of supplemental calcium (250 mg or more) obsolete overnight or only for specific patient groups. Yet, these products are still being sold today.
4. Five years later, many clinicians still recommend 2,000 mg of calcium per day in 2022.
5. This fact means patients are taking calcium supplements for no reason in many cases, increasing their risks for heart disease and death.

6. Calcium supplements still contain large amounts of calcium despite lowered guidelines worldwide.

It pays to be up to date and educated on your disease and current recommendations. Education is our best defense. If you are not up to date, you are likely still taking large amounts of calcium-fortified supplements for no real reason and increasing your risk of a bad outcome.

The nuance

In the last section, you saw that supplemental calcium is not healthy. However, dietary calcium is. We need to understand this difference. Think of this in terms of excesses. Dietary calcium comes in small amounts from natural foods, and it also comes with other vitamins, minerals, antioxidants, fiber, and so on. The AHA states very clearly that dietary calcium is healthy for us, but supplemental calcium is not.

Excess supplemental calcium is deposited in our hearts, arteries, and soft tissues at much higher rates than dietary calcium. When vascular calcification is the number one killer of kidney patients, we have to pay close attention to this issue. Supplemental calcium is linked to the number one killer of patients, and the NKF is saying excess calcium intake increases our risk of death. Should we ever be taking a supplement linked to our number one killer? Clearly, the answer is a "NO" unless we meet very exacting criteria.

How much is too much?

Patients often ask us how much excess calcium is too much. The assumption is it takes high doses of extra calcium for bad things to happen. Again, this is not true. Depending on the study, amounts as little as 400 mg per day can have negative impacts. As stated in another study, 500 mg of supplemental calcium increased the risks of heart disease in healthy patients in just two years of use.

For patients on a low-protein diet, 250 mg or more in supplemental calcium will put us over the recommended 800-1,000 mg total calcium limit. For those on traditional diets, no supplementation is needed, as the average American consumes 1,029 mg of calcium per day already. It is impossible to reduce dietary calcium intake below

650 mg per day and still eat real foods every day. If we average 750 mg per day from dietary calcium, then any supplements must contain less than 250 mg of calcium for us to meet the 2022 recommendation and not increase our risk of dying or accelerating both kidney and heart disease.

If we made a list of evidence against excess/supplemental calcium, it would look something like this in 2022:

1. **National Kidney Foundation recommendation**
2. **American Heart Association recommendation**
3. **EU recommendations**
4. **No studies that we examined indicate that supplemental calcium over the RDA is beneficial unless our blood tests show we are below the normal range for calcium.**
5. **Over 20 countries limit high calcium keto acid analogs to stage 5 patients.**

Each one says basically the same thing: avoid supplemental calcium if it causes you to go over 800 to 1,000 mg per day for total calcium intake. High-calcium products (250 mg or more) are only for patients who fit a very specific criteria (Stage 5). When recommendations are this overwhelming and clear, we should not go against them.

Calcium is an excellent example of why we should stay up to date, because so many patients are taking it without understanding the risks. In addition, calcium is everywhere: in our everyday diets, antacids, phosphorus binders, keto acid analogs, fortified foods, and so on. Most patients consume substantially more than the 800-1,000 mg daily limit. Most of us have never considered that supplemental calcium might be bad for us. We inadvertently accelerate heart disease and other comorbid conditions by following old guidelines that are now proven to be hazardous to our health.

As a comparison, the best-selling calcium supplement on Amazon.com contains 1,200 mg of calcium, well over the 1,000 mg limit before dietary intake is even factored in. Any calcium supplement that pushes us over 800-1,000 mg of total calcium per day should be reserved for stage 5 patients with a low calcium level verified by blood tests. More on this later.

Modern facts versus old assumptions

You may assume over-the-counter products or common supplements do not carry any risks to your health, but you would be wrong. Product marketing and consumer demand promote the idea that more is better. The logic is if I am going to take something, I want the most I can get. However, this approach is 100% wrong for kidney patients and may harm your long-term outcome. A disease of excesses demands a less — not more — approach. Precision needs to replace guessing and randomness.

Reputable companies will not ask us to go against current guidelines

We get calls and emails on conflicting products and information every week. When patients ask who to believe, we are often unsure what to say. It's bad form to say a company is lying or misrepresenting products for kidney patients. However, we can't lie to patients either. It's such a constant issue that we finally had to make up a few rules to help patients evaluate claims versus modern guidance.

How to determine whether a product is reputable:

1. Reputable products for kidney patients will state who the product is designed for and who should use it. Each stage of kidney disease is different and has different needs, opportunities, and risk profiles. More than 40 countries use or require this kind of disclosure. "One size fits all" is a red flag.
2. Reputable products will be designed to meet current guidelines. Products should be updated as new guidance is published. Companies have 100% control of the ingredients. Companies and products that recommend we go against guidance are also red flags and should be avoided.
3. Reputable products should be transparent and disclose all relevant facts that affect kidney patients, such as nitrogen, calcium, and magnesium levels, percent of RDAs, any special risks or issues to consider, and so on. No product or program is perfect for everyone. We need this information so we can stay in the normal ranges, avoid excesses, not go against guidelines, and make the best possible health decisions.
4. An entire industry exists on the web selling diet /supplement consulting services to kidney patients. The same cautions apply. We see patients paying hundreds or even thousands of dollars to "professionals who advise patients to go against guidelines. 99% of the time, patients do not know better. If you are being advised to go against guidelines, you should be very skeptical and cautious.

An example of a product from a patient call just yesterday:

- XYZ product is advertised to all kidney patients regardless of the stage
- XYZ product use requires us to go against current guidelines
- XYZ product does not disclose key issues for us so we can't make great decisions without guessing.
- The person recommending going against guidelines earned a sales commission on the products which were never designed for the patient's stage of kidney disease.

Red flags were everywhere. Once we walked the patient through this list, the answer was crystal clear. He was outraged by the claims and being steered into products that would only increase his risk in exchange for a small sales commission.

It's a sad fact that **over 90% of products advertised online for kidney patients go against current guidance and/ or have little to no basis in facts**. Every patient should beware when buying products for kidney patients from unknown or new sources. You should check any claims or recommendations against the most current KDOQI to see if they comply or not. You can also email us and ask at support@kidneyhood.org. It is beyond the scope of this book to attempt to deal with all of these issues, but skepticism is your friend on the web.

Another way to to frame this issue is looking at a bigger picture view:

Has any country or medical organization ever suggested that random diets, supplements, vitamins, etc. are beneficial for any kind of patient or disease?

The answer is no.

Has any country or medical organizations ever suggested patients should go against modern guidelines designed to reduce their risks and improve their predicted outcome?

Again, the answer is no.

Being up to date is required to follow the best and most current advice. Sometimes these changes can have a big impact on our outcomes. Old, bad, and misleading data should be avoided at all costs.

This guide is updated annually to reflect any new changes.

Educational goal:

- Being out of date with current recommendations can increase our risks in ways we never imagined.
- We should expect to update or change our approach as science progresses.
- Decades of standard practice and products can be rendered obsolete overnight.
- Clear guidance and transparency can make managing our disease less risky and easier.
- Being up to date is our best defense against old data and internet marketing claims.

CHAPTER 8

Bad information: Be very careful about medical advice from the internet

Any patient with an incurable disease is prone to search the internet looking for help or advice. I have certainly been guilty of this habit. This is not always a bad thing, but I now wonder if the good is really outweighed by the harm that is being done.

Patients get sidetracked or fleeced by sites advertising products for kidney patients. Patient forums are wonderful on one hand, but they sometimes have incredibly bad information. Anyone can anonymously portray themselves as an expert or someone who has experience with a certain issue. The internet is wonderful, but it's not vetted, fact-checked, or verified in any way.

Patients may spend thousands of dollars and hundreds of hours pursuing treatment or making medical decisions based on something that was never true to start with. Many patients are looking for that magic silver bullet, but so far for CKD patients, no such thing has been found. We have talked with patients who refused mainstream and recommended treatments based on unverified social media posts about fringe theories.

Let me give you a few examples from just the past week or two. Patients have called or emailed asking about the following to cure or treat kidney disease:

- Homeopathic arsenic
- Coffee enemas
- Stem cell treatments in less developed countries
- Paying thousands for herbal consulting and supplements from another country based on a single social media post
- Using products meant for dialysis patients
- $80 for a digital download containing a secret tea recipe that will stop kidney disease
- Paying an internet doctor in another country who claims to have a cure for kidney disease, despite no proof or even proof they are a real doctor

- A perfect amino acid that will always give you perfect nutrition regardless of dietary intake
- Using "Keto" or high-protein diets and wondering why kidney function is falling rapidly
- Taking 20+ different supplements per day on the advice of an herbalist
- CBD/ THC (active ingredients in marijuana) for kidney disease treatment

What all of these "treatments" had in common was that they were all advice found on the internet. In addition, these "treatments" were presented in a way that the patient thought it was credible enough to act on or consider. Some of these are outright scams, while others go against modern guidelines, actually increase the speed of kidney or heart disease progression, have never been proven to work, or were never meant to be used by predialysis patients.

It's possible some of the listed treatments could have some merit, but they are not recommended by any reputable organization or country.

The common thread here is no quality control, no vetting, and no verification — just the wild west. I often feel that the word "incurable" attracts these kinds of scams or misrepresentations. I have tried more of these than I am comfortable admitting, and to be very honest, it makes me feel foolish.

However, I didn't know any better at the time — just like the patients who are asking us about these issues.

What constitutes reputable or trustworthy information?

It's hard to say and cover every circumstance, but we do know what the most reputable institutions and studies do to document any issue.

I can give you a few things to look for when deciding which information to read or use to get educated:

1. Well-referenced citations so the information can be checked and verified by anyone.

   For example, one medical study on a subject vs. 100 cited studies is very different in terms of evidence. The more citations or studies cited, the better the research in most cases. For this book, we eliminated citations with a reference to see *Stopping Kidney Disease* (2019) for all citations.

The National Kidney Foundation's 2020 KDOQI update contained over 500 citations. *Stopping Kidney Disease* (2019), our initial book, has over 800 medical study citations as examples. You can trust both of these sources based on the rigorous standards used. Both works agree on over 95% of issues, as everyone is reviewing the same research and reaching the same conclusions. This fact should give you confidence in both works.

2. Recently published or updated within the last five years.

   Remember, new research is published every year that may contradict or invalidate older research. We have seen this with keto acid analogs, calcium, magnesium, and others. In the medical community, ten years is a very long time. Anything published before 2017 may not be up to date. This is also true for products developed for kidney patients before 2017.

3. Passes the practical price test.

   We publish a 500+ page physical book, *Stopping Kidney Disease* (2019), for less than $20, including shipping, printing, and warehousing costs. E-books, including this e-book you are reading, usually cost less than $10 (this e-book is also free on our website). Other reputable information may be free, like from the National Kidney Foundation. However, you may see online sources charging $50 to $100 for downloadable PDFs or e-books. If you are being asked to pay more than $25-$30 for a single book or download, you may be getting scammed. In one example, an $80 e-book series is being sold by over 50 different websites using different kidney-related domain names. We just bought college textbooks for my daughter, and most were under $80. Another red flag is that these books are never listed on reputable sites like Amazon, as Amazon policies would not allow this kind of foolishness.

   (From the last chapter)

4. Reputable products and companies will not ask you to go against or disregard modern guidelines.

   We mentioned this before but will say it again. Many products completely disregard the most current recommendations. The catch is you need to know what modern guidance is to avoid these products.

5. Labels should describe exactly who the product is to be used by. When something says the equivalent of "For all kidney patients", your scam radar should start working. Every stage has different needs, risks, and opportunities.

6. Reputable products and companies will provide all relevant information and won't bury or hide issues we need to know about, such as nitrogen, calcium,

and magnesium levels, percentage of RDAs, and the research or data behind the product or approach. Lack of disclosure normally equals bad things. If the news was good, it would be on the label or box.

7. Reputable professionals will also not ask you to go against updated guidance.

Patients lose time, money, and kidney function chasing things that could never have worked

You should be talking with your doctor about everything, especially unknown approaches with no proof or those that are not recommended. Talk with your doctor until both of you are satisfied with the answers or approaches.

The idea that we should be treating ourselves or making medical decisions based on the unverified information on the internet needs to stop. It's likely hurting more people than it is helping.

A UK study on the accuracy of medical websites concluded that only 39% of these websites contained accurate information. We have a 61% chance of getting bad information. 61% bad or misleading information is really, really harmful for those of us with an incurable disease.

Please be skeptical of everything you read on the internet, and talk with your doctor before pursuing any treatments that are not mainstream and recommended. Apply some common sense and some standards to anything you read or research.

Your health and future are too important to gamble on treatments outside the mainstream. When we lose time on unproven concepts, we lose kidney function as well.

Reputable and recommended first, fringe theories as a last resort

Don't waste months or years of your life going down the rabbit hole of internet cures for kidney disease. Stick with the most proven or recommended strategies first, and then if these fail, you can pursue less proven treatments or options later if you choose. You are not giving up anything by pursuing mainstream strategies first. You are giving up time, money, and likely kidney function when you pursue fringe theories with no proof or evidence first.

You are much more likely to improve by following the best and most up-to-date guidance than by trying a fringe theory that either can't possibly help with excesses or provides unknown amounts and risks.

Using recommended strategies and treatments with your doctor's input and advice is the way to start effectively dealing with kidney disease. When we are desperate, we will believe just about anything. In addition, internet marketing gets more effective and persuasive every year. Every year they get better at getting us to click on an ad or site.

The best defense is being up to date and applying the rules about factual and reputable information to protect you.

Education goal:

- While the internet has changed our lives, it's not fact checked or verified by anyone.
- More than 60% of health related websites are considered to be inaccurate or misleading.
- An entire industry exists to sell us products that have no basis in reality or that go against modern guidelines.
- Skepticism and education are our best defense.
- Always talk with your doctor before pursuing any new treatments or programs.

Patient story

Liz's story

G'day. I'm Liz. I live in a beautiful area of the south of Australia called Gembrook. I've competed at an international standard with horses. I've been an athlete all my life. When I virtually gave up riding, I started marathon running.

The reason I initially went to the doctor was that I was having trouble with my breathing. They did an ultrasound and things like that, and she sent me with all the results to this specialist, which was called a nephrologist. He said, "Oh no. You've got Chronic Kidney Disease," whatever that was. He said, "There is absolutely nothing you can do." He said, "It's just totally incurable. There is nothing that can happen, and I give you five years."

I have a master's degree in education, so I'm an academic too. So I went onto the internet and did some searching. Everything that I found was for people who were already on dialysis. There was nothing for people who are in the situation that I

was in, that Lee's in. Anyway, I kept searching and eventually came across my hero, called Lee. I just couldn't believe what he was doing for everybody out of the goodness of his heart. He sent me all of this material. I was probably sticking to Lee's diet about 80% of the time, and the other 20% was just an ordinary vegetarian diet.

I'll give you a couple of sets of results. The first ones were before Albutrix came out, and they were taken on 2/18/19. The GFR at that time came up as 33 and the creatinine came up as 141, which was way out of the range it had been prior to that. The next set of tests that I did, which was on the 25th of February, the GFR was then 41, and the creatinine had gone back down to 118. Since Albutrix, my GFR has gone up from 33, to 41, to 43, and my creatinine has gone down from 141, to 118, to 113. So what other proof would they like?

The specialist said to me, "Oh, you must have been having a bad day." I said, "No." Again, this is the trouble. They won't believe that there is anything other than what they say, which is that there is no cure. I said to him, "What about your diet?" He said, "Oh, it doesn't make any difference. Not until you're on dialysis." And I thought, "God, here we go."

I've been back to the heart specialist since and got on his little treadmill. He said that my breathing has improved. He's taken me off one set of tablets that he had me on. So that's great. I now believe there's a light at the end of the tunnel. Okay. Initially I believed that I had a very limited amount of time and that I wasn't going to be able to do the things I wanted to do, and now I don't. I believe that if I stick to using my tablet and stick as well as I can to the diet, that my life will run its normal course.

This is the light at the end of your tunnel. It does work, and that's the important thing. You've just got to believe that and realize that the difficulties in what you're doing now are going to have the most amazing results. Your life is going to be longer and much more fulfilling.

CHAPTER 9

Drugs and low-protein diets

As discussed in the previous chapter, the best option for us is to exhaust mainstream or recommended treatments first before going into fringe approaches. You can always pursue other treatments later if the mainstream treatments fail. However, your time and effort should be focused on the most recommended strategies and treatments first.

Your odds of success are much higher with proven treatments. However, as you will see, mainstream recommendations are still not always clear.

Our treatment choices are still minimal in 2022, but options do exist. Dealing with an incurable disease may require trying different options to see what will work for you. Our educational goal for you as a patient is to be aware of your options.

In 2022, there are only two recommended treatment or management options for kidney disease:

1. Drug therapies using steroids or immune-suppressing drugs
2. Low- or very low-protein diets

Remember, this book is for predialysis patients, so dialysis is not listed above.

Drugs first

Immune-suppressing drugs or steroids may induce remission for some forms of kidney disease. This fact is especially true for autoimmune-related kidney disease. It's outside the scope of this book to go over each form of kidney disease and related drug options, but you can ask your doctor if drug therapies are an option for your type of kidney disease.

I tried both steroids and immune-suppressing drugs with no benefit. Even when drug therapies are appropriate for certain kidney diseases, only a subset of these patients will respond to these treatments.

The standard approach to drug therapy is to try one drug for several months and then switch to another for several months to see if that one works. I tried both

steroids and immune-suppressing drugs for a little over a year. While it's true my disease did not respond, I tried both drugs as a part of doing everything I could to stop or slow my disease.

Patients tend to either favor drug therapies or reject them outright without knowing all the facts. My educational goal for you is to talk with your doctor about these options regardless of how you feel personally. Get the facts irrespective of any personal bias you may have regarding drug therapies. **You do not want to pass up a chance to stop or slow your disease.**

If drugs are not an effective treatment for you, the only recommended option is a low-protein diet.

New recommended option in the USA

In 2020, the National Kidney Foundation (NKF) recommended low-protein diets both with and without keto acid analogs to provide the following benefits for patients:

1. **Reduce the risk for end-stage kidney disease (dialysis)**
2. **Reduce the risk of death**
3. **Improve quality of life**

This recommendation is a compelling list of benefits for those with an incurable disease from a very trustworthy source. Over 40 countries have some form of approved products or guidance for low-protein diets specifically for kidney patients. Although guidance varies from country to country, most are intended for stage 5 patients with a GFR from 5 to 15.

We can confidently say that the concept of low-protein diets is mainstream and recommended by multiple countries and organizations. These diets are new to the USA but have been used in one form or another since the 1970s in other countries.

The good news is that a dietary approach represents the lowest-risk and the most direct approach to excesses. Eating a heart- and kidney-healthy diet is not radical in any way. It's common sense for those who want to have a better outcome. It's also low risk when done right.

Now for the bad news

Unfortunately, low-protein diets and related protein supplements (keto acid blends or amino acids) have a mixed record. We cannot skip over this issue. We need to dig in to understand what goes wrong with these diets and supplements and how to correct the problems so we can be successful.

While the US-based NKF recommended low-protein diets in 2020, the French equivalent of the Department of Public Health (Haute Autorité de santé [HAS]) issued the following contradictory committee opinion in 2015:

> ***"No clinical benefit demonstrated in combination with a very low protein diet in chronic renal failure."***

The French opinion combines a keto acid analog and a low-protein diet, similar to the NKF recommendation. Both are reputable organizations coming to very different conclusions within five years of each other. This type of back and forth plagues low-protein diets for a reason. We need to start by finding why these diets failed in the past so that we can solve the reasons for inconsistency before moving forward.

More conflicts

While the US and many countries recommended keto acid analogs or keto acid blends, all past blends go against the modern guidance including the NKF and AHA for calcium intake. While the NKF is recommending keto acid analogs, the calcium content is so high for pre-2017 keto acid analogs that we had to make a choice of accelerating heart disease and our risk of dying just to try a low-protein diet. The NKF calcium recommendation is 800-1,000 mg per day, but pre-2017 keto analogs like Ketosteril contain more than 800 mg of supplemental calcium per day. We have to eliminate any keto acid blend that caused us to go over 800-1,000 mg per day and that eliminated every keto acid blend in the world until Albutrix.

This was one of the primary reasons we developed Albutrix to comply with modern guidance. It's not safe or sane to increase our risk of dying and accelerated heart disease just to try a low-protein diet. Albutrix solves all of these problems, and for the first time, we can actually follow modern guidance and reduce our risks.

Early intervention at stage 3 and 4 is now possible using Albutrix S3 or S4, and you can meet 2022 guidelines for the best outcomes. Safe and early intervention that complies with the best guidance is now available for us.

The reason for decades of mixed results was easier to solve than I thought

My first insight into this issue was as a patient in a clinical dietary study. I was one of these patients given a folder with a few recipes, some nutrition information, and a protein supplement. I had no education on kidney disease or nutrition, so I guessed most of the time.

My results did not change during the study. I failed, even though it felt like I was trying hard to follow the instructions. The truth is, I had no idea what I was doing. My knowledge at this point was pretty much zero, like most patients.

Mixed results also came when Albutrix low-nitrogen protein food launched, and we started soliciting feedback from patients about their blood/ urine tests. The results were all over the place: some were doing incredibly well with the program, and others were mediocre. We went to work interviewing patients to find out what was causing different results. Looking back, I should have known better. I had forgotten what it was like to be that patient overwhelmed with dozens of calculations every day, not knowing what I was doing or why I was doing it. Giving patients guidelines is not enough.

This trend of mixed results was also shown in the 12-month follow-ups. Dietary compliance was the number one factor in whether patients improved. Patients making the most substitutions, not following the program, or constructing their own diets had the most negligible improvements or no improvements at all.

These "do-it-yourself diets" were based on personal preferences and their perception of "healthy" or "not healthy". In contrast, patients with the highest dietary compliance improved six to eight quarters in a row.

We can say with good authority, based on our experiences and the mixed results of other studies, that the reasons for success or failure come down to one thing:

Random diets and supplements lead to random results, excesses, deficiencies, frustrated patients, and poor results. Randomness and guessing have never been proven to work for us.

Combining random diets with random products and supplements that either go against guidelines or are not meant for the patient group has left an almost 50-year trail of dietary chaos for us and our caregivers. To be fair, it would take all related parties, organizations, and companies working together over decades to solve this problem. This kind of cooperation will never happen, so we are left to solve this on our own.

When patients' diets, protein supplements, vitamins, prescription drugs, and existing health conditions are different, we cannot help but get mixed outcomes. Patients left to their own devices have abysmal success rates for what to eat and what not to eat. But it's not the patient's fault. It's unrealistic to ask patients to come up with and validate diets on their own.

I experienced this when I was a patient and when I worked with others. Each patient has different food preferences, backgrounds, budgets, education levels, amounts of support, what is healthy, and perceptions of kidney function. Patients are trying hard, but fall short despite genuine efforts on their part. The restrictions and issues are just too complex for those of us without proper training. It's not the patient's fault — it's asking too much of the patient.

Drug trial comparison

Think of a drug trial as a comparison. Patients are not given syringes and a bottle of the drug and told, "Good luck, see you in 90 days." Every relevant detail is planned, measured, and done with precision. This approach is the only way results can be trusted. Dietary approaches to managing kidney disease are no different. If we want great results to be repeatable, we must follow the same approach.

Even when dietary trials are supervised by medical professionals using appropriate controls and standards, the results are still mixed. If we are failing with good supervision, imagine how we do on our own? We need to articulate exactly what patients should do and give them a clear plan.

Solving the inconsistency problem

Once we saw the randomness in diets from patient to patient at scale and understood what was needed from a low-protein approach, we saw the clear need for a standardized low-protein diet. We went to work on what is now the *Stopping Kidney Disease Food Guide*. After five months of work, we published this guide and sent it to patients.

The feedback and results changed overnight. Everyone was not only doing much better but doing better over more extended periods. Two years later, we can see that patients can improve six to eight quarters in a row.

Low-protein diets need to be standardized and integrated to work in real life

The argument for the standardization of low-protein diets is a strong one. We can only get reliable information from our blood and urine tests by following a known diet for a fixed period. After this period, blood tests will give us an objective measure of our success or failure. We can eliminate guessing and random results by using a standardized approach and eliminating as many variables as possible. Think about a drug trial again: it's a standardized dosage and approach.

For us as patients, we can now get reliable and repeatable results using a standardized approach. Chaos and randomness have been replaced with order and a plan.

Our real goals as patients are to improve as rapidly as possible and stop or slow irreversible damage from occurring. We also want to see improvements in our blood work as soon as possible. Getting better and slowing or stopping irreversible damage is our highest priority. In order to do this, we need repeatable results. Repeatable results are only possible with a standardized program. Randomness leads to more randomness and unknown outcomes.

Standardization sets patients up for a big win early in the program. Standardization eliminates guessing and allows us to do almost all of the work for the patient. Standardization is also the easiest for patients to follow and greatly improves both compliance and success rates. Patients need to see rapid improvements to make meaningful, long-term changes to diets and lifestyles. This type of progress doesn't happen with random diets or protein supplements. In addition, these diets and supplements can contribute to excesses or fail to meet the recommended RDAs.

Standardization also allows us to directly address any deficiencies with precision and accuracy and ensures RDA's are met. Standardization combined with integration gives us the chance to actually follow the most updated guidance for the first time in history.

Educational goal:

- In 2022, drugs and low-protein diets are the only recommended treatments to slow kidney disease progression.
- Talk with your doctor to see if drug therapies may work for your form of kidney disease.
- A standardized low-protein diet gives us the best odds of success and is the only other recommended treatment if drugs fail or are not an option.
- Combining random diets and products has never been proven to work and will waste our time and money.

CHAPTER 10

Diet: The single biggest impact on your outcome!

In this chapter, I want to educate you on the most important changes you can make for your health. I don't want you to waste time pursuing internet craziness, but to spend your time on what matters most. I also don't want you to go against the best and most modern guidance. We need to focus on what will have the most impact on your future outcome.

Stephen Covey wrote several books on time management which were very popular in the 1990's. One of the concepts was "Big rocks and little rocks". The big rocks were to be scheduled first, as the big rocks represented the highest priorities with the biggest impact. The "gravel", or tiny rocks, were smaller issues which were not important or did not make a big impact.

This chapter is about big rocks and gravel from a kidney patient's perspective. I want you to be able to focus on the big rocks so you can get the best outcome with the least amount of stress.

What are the big rocks for kidney patients?

My observation after living with kidney disease for more than 20 years, doing research, and gathering input from hundreds of patients is that long-term diet, lifestyle, and exercise changes have the biggest impact on our outcomes.

Not supplements, vitamins, herbs, fad diets, or small changes to your diet. The larger changes you make in your diet, exercise, and lifestyle are going to determine your future success with more certainty than anything else. Supplements or vitamins may be a very crucial part of any approach to ensure RDAs are met and reduce the workload on your kidneys, but these products support our dietary approach, not replace it.

If you think about it for a second, the impact of diet makes sense. We have a disease of excesses, and the only way to deal with these excesses is by dietary choices. Eating less of the problem is cutting the head of the snake. This approach is direct and straightforward.

Exercise also improves our blood test results and lowers our risks for heart disease. Kidney disease progression is also tied to our heart health. For me, "lifestyle" means

doing the things that keep our disease from progressing. Lifestyle means making time for diets and exercise.

However, before I let my personal experience or bias lead us down the wrong path, let's see what reputable sources are recommending. We want to make sure we are acting on up-to-date and well-researched information.

Supplements are only needed when real dietary differences exist.

What nutrition is recommended for the best outcome?

An NIH panel issued the following statement after reviewing the benefit—or lack of benefit—for supplementing vitamins and minerals (2006):

There is no reason to expect that the use of multivitamin and mineral supplements would prevent chronic disease unless (1) individuals given supplements have diagnosed vitamin or mineral deficiencies, and (2) the doses and combinations of supplements used are confirmed to correct any diagnosed deficiencies.

Additionally, NIH's updated nutritional guidance for 2020-2025 says the following:

"Because foods provide an array of nutrients and other components that have benefits for health, nutritional needs should be met primarily through foods. … In some cases, fortified foods and dietary supplements are useful when it is not possible otherwise to meet needs for one or more nutrients (e.g., during specific life stages such as pregnancy).

NIH's quotes from dietary intake recommendations also state that:

"There is no established benefit for healthy individuals if they consume nutrient intakes above the RDA or AI."

"As intake increases above the upper limit (UL), the risk of adverse effects increases."

NKF took a similar stance in their 2020 KDOQI, saying that we should:

"encourage eating a diet that meets the recommended dietary allowance (RDA) for adequate intake for all vitamins and minerals" and *"assess dietary vitamin intake periodically and to consider multivitamin supplementation for individuals with inadequate vitamin intake."*

Lastly, AHA took the following position on nutrition and supplements in 2014:

"We recommend that healthy people get adequate nutrients by eating a variety of foods in moderation, rather than by taking supplements."

"Consider multivitamin supplementation for individuals with inadequate vitamin intake."

"Encourage eating a diet that meets the recommended dietary allowance (RDA) for adequate intake for all vitamins and minerals."

Let's summarize the combined advice from the NIH, NKF, and AHA:

The healthiest dietary approach is to get as much nutrition from real food as possible, only supplementing up to the RDA when real deficiencies exist. Risks increase as intake increases above the RDAs or upper limits.

We can have tremendous confidence in this advice, as it covers guidance for healthy people (NIH), kidney disease patients (NKF), and heart patients (AHA) based on numerous studies.

We can look at dietary nutrition as a big rock.

What is the most recommended diet?

The most recommended diet is easy to research and harder to follow in real life, but again we can only solve problems after defining each issue.

Almost everyone in 2022 recommends the Mediterranean diet:

- National Kidney Foundation
- American Heart Association
- World Health Organization
- US Health and Human Services
- US Department of Agriculture

There is no need for guessing or randomness. We have good info on the most recommended dietary approach. However, what makes up the Mediterranean diet is not as clear. No exact definition exists, which adds to our confusion.

The benefits of Mediterranean diets (MedDiet) can be summed up as follows:

"A large body of observational and experimental evidence suggests that higher adherence to the MedDiet is associated with a lower risk of mortality, cardiovascular disease, metabolic disease, and cancer."

In our case, the extra benefits of lower risks of cancer, death rates, and heart disease are just icing on the cake for us.

Mediterranean diets include the following broad guidelines:

- No or a very low amount of processed foods
- High intake of fruits, vegetables, seeds, nuts, herbs, spices, and whole grains
- Moderate to low intake of animal proteins such as eggs, meats, and dairy
- Mostly plant-based foods
- Olive oil over other oils
- Red wine (for some Mediterranean diets)

This description is about as close as we can get to a standard definition of a Mediterranean diet. However, we have to deal with acid loads, protein, phosphorus, potassium, and other restrictions as kidney patients.

How close can we get to a Mediterranean diet with a low-protein diet?

Let's look at each part of the Mediterranean diet guidelines and refine them with kidney patients in mind:

1. No or a very low amount of processed foods

   (Can do—no issues.)

2. High intake of fruits, vegetables, seeds, nuts, herbs, spices, and whole grains

   (Whole grains, seeds, and nuts need to be limited in intake due to protein, phosphorus, and the renal acid load. Fruits and vegetables are okay for the most part, but potassium may be an issue.)

3. Moderate to low intake of animal proteins, such as eggs, meats, and dairy

   (Low-protein diets restrict animal proteins, so this is fine.)

4 Mostly plant-based foods

   (Plant-based foods are the mainstay of low-protein diets, so this is fine as well.)

5. Olive oil over other oils

   (Olive oil is no problem.)

As you see, we as kidney patients can come pretty close to following the most recommended diet in the world.

The *Stopping Kidney Disease Food Guide* is based on a low-protein, heart- and kidney- healthy diet for kidney patients and modeled after the Mediterranean diet guidelines. This mirrors the same diet I used to improve as well.

It's much more complicated than you might think to do this. In a recent review of 639 "Mediterranean recipes," we amended six recipes for kidney patients. It's not easy work, but as I will show you, it's worth it.

We not only need to follow the overall basics of the Mediterranean diet, but we also need to increase every good factor and reduce every bad dietary aspect.

Low-protein diets are not just about low protein. Renal acid load, polyphenols, antioxidants, fiber, heart-healthy, and so on also need to be part of the plan.

A clear, modern guideline for us

We can define this in two steps to meet the most up-to-date guidance.

Step 1 is our diet, which should contain the following characteristics:

- Low to no processed foods
- High intake of fruits and vegetables
- Low or no animal proteins
- Mostly plant-based
- Healthy oils like olive oil (limit or avoid oils high in saturated fats)
- Only supplement known or proven deficiencies

Traditional kidney diets should be considered obsolete in 2022 and are no longer recommended

Traditional kidney diets found in older books that only manage potassium, phosphorus, and sodium should now be considered obsolete. While patients may choose these diets, they should not expect to improve over the long term.

Renal acid load, creatinine, blood urea nitrogen, and other levels are allowed to rise unchecked in the name of reducing sodium, potassium, and phosphorus. Using these diets, patients cannot keep enough of their blood work in the normal range. In addition, these diets are no longer recommended by reputable organizations in 2022. Restricting sodium, potassium, and phosphorus is still recommended, but everyone now recognizes these diets do not go far enough to change our outcomes. For this reason, these diets are no longer recommended.

I am listing potential drivers of kidney and heart disease progression to give you an idea of the number of issues we have to deal with in some way. If we are trying to get

better, we need to address as many problems as possible with diet. Even though the list is long and looks too complex and hard to control, in most patients the right diet can dramatically help.

Conditions that speed kidney disease/ Is diet an effective treatment?

Uremia—yes

Uremic toxins—yes

Inflammation—yes

Acidosis or Renal acid load—yes

Sodium—yes

Phosphorus—yes

Potassium—yes

Oxidative stress—yes

Weight—yes

Calcium levels (high or low serum calcium)—yes

Magnesium levels (high or low magnesium)—yes

Blood pressure—yes

Advanced glycation end products (AGEs)—yes

Hyperlipidemia or High Cholesterol—yes

Methionine restriction—yes

Heart Disease—yes

Type 2 diabetes—yes

Uremic malnutrition—yes

Kwashiorkor (form of protein malnutrition)—yes

Marasmus (form of protein/ calorie malnutrition)—yes

Vitamin overload or excesses—yes

Vitamin deficiency—yes

Essential amino acid overload or excess—yes

Anemia—yes

Mortality rates—yes

Odds of dialysis—yes

For those of us counting, 26 factors that we know of today can be impacted by diet and lifestyle. More likely exist, and some overlap but are technically different. I know it looks overwhelming, but keep going. We have done the work for you.

All 26 factors on this list are improvable by diet. However, traditional kidney diets only address three factors: potassium, sodium, and phosphorus. These old diets don't go far enough to get meaningful results.

A complicated systemic disease with so many factors demands a standardized approach that we can validate the effectiveness of using. We want to solve as many problems as possible. We have not seen any other process work reliably and be repeatable. Let me repeat this: We have not seen any other approach work consistently and reliably across all kinds of kidney disease patients. This includes those with genetic diseases like polycystic kidney disease and transplant patients.

It's not fair to ask patients to come up with these kinds of diets on their own. It's not realistic and puts too much burden on the patient. Diets must be designed to reduce the factors that speed up kidney and heart disease progression and increase those that slow kidney and heart disease progression.

Asking the patient to do this on their own sets them up for failure.

The biggest rock with the most impact is long-term dietary changes to take the workload off our kidneys and move our blood work back into the normal ranges.

Focus on the big rock, which is your long term diet, and follow the most up-to-date and modern recommendations.

Educational goal:

- A modified low-protein diet modeled after the Mediterranean diet guidelines is the optimal diet for us.
- Only supplement known deficiencies and get as much nutrition as possible from real foods. Going above the RDAs starts to increase our risks and workload on our kidneys with no known benefit.
- Long-term changes to your diet and lifestyle will have the biggest impact on your future outcome and are the biggest rocks.
- Focus your time and energy on the big rocks and don't get lost in the gravel.

CHAPTER 11

How to measure getting better

This chapter could be called "Big Rocks 2", as these issues are what I consider some of the biggest rocks when it comes to kidney disease management.

As patients, we frequently focus on the wrong things or don't fully understand the importance of certain issues. We can easily forget about small things when maybe we shouldn't. Many times we will hear from our doctors, "don't worry, we will just monitor your disease". This is the wrong approach on every level. As our blood and urine tests are changing, they are telling us about our current battle with kidney disease. These tests will also give you an insight into your future outcome.

Your blood/urine tests are the gold standard and count more than anyone's opinion.

These tests are your guidebook for future decisions. If you are willing to listen, these tests will tell you exactly what you need to do next.

We talked about excesses and lows, but you need to take this to heart. You need to act on any issues outside the normal ranges.

Let me say this as clear as I can:

Your current blood/urine test results are the most important indicator of your future odds and the effectiveness of any approach, treatment, drug therapy, diet, or supplement.

Your current and historical blood/urine tests represent the best possible information for you to make decisions with. These tests trump anyone's opinion because they are a factual and objective look into our current battle with kidney disease.

Are you winning or losing the war on your disease? Your blood/urine tests will tell you.

Do not disregard your blood/urine test results even when they are barely out of range. Borderline tests today will be well outside the normal range in the future if you don't make changes. Small changes are much easier to make, and if we don't let things get out of control, we can slow or stop irreversible damage.

Dietary big rocks vs. dietary gravel

Diets, exercise, and sometimes drugs are the only real tools you have to keep your blood work in the normal range. The combination of all three are very effective at this. Think of blood pressure- or cholesterol-lowering drugs combined with exercise and diet as examples.

For the most part, supplements don't change your blood or urine tests like dietary changes, exercise, and prescription drugs do. Some supplements may mildly improve certain blood or urine tests. However, we are not after minor improvements. Minor improvements are for healthy people, not those of us trying to turn the tide on a deadly disease. Minor improvements are gravel to us and will likely not change our outcome.

Patients tell us about the small dietary changes they have made. They switched to organic foods, stopped using artificial sweeteners, started using different oils, gave up red meat, etc. These small changes are well-meaning, but they are gravel with no proof they change our outcomes. No data exists that these kinds of small changes make much of a difference. Small symbolic changes are gravel.

The combination of diet, exercise, drugs and lifestyle changes are the biggest rocks that you should focus all of your time and energy on. Forget about inconsequential or minor things and focus on the big rocks if you really want to improve.

Yes, changing long-term habits is a heavy lift in some ways, but the alternative is dialysis, transplant, or death. Eating healthy, exercising, and seeing your doctor regularly are small prices to pay compared to the alternatives.

The Kidney Trifecta–a factual scoreboard

What do we want our blood tests to show? Ideally, we want the "Kidney Trifecta". A trifecta is a horse racing bet that requires you to pick the top three horses in the correct order, which results in a very large payout.

For us as kidney patients, we can use our blood/urine tests to improve our outcome by tracking what we call the "Kidney Trifecta". The measurements listed below are the pillars of kidney disease management.

The trifecta consists of three big measurements:

1. Stable to rising GFR
2. Stable to reduced proteinuria/albuminuria (protein or albumin in the urine)
3. Increasing number of blood tests in the normal range (like creatinine, BUN, phosphorus, calcium, potassium, etc.)

The trifecta matters because it changes our outcomes, and the only proven way to do this is by using a low-protein diet, drugs, exercise, or a combination of the three. Use your current blood/urine tests as a "trifecta scoreboard" to provide a window into your personal battle with kidney disease. Doing well on the trifecta is a big rock.

The trifecta is the key to living a long and high-quality life with kidney disease.

Stable and/or rising blood studies changes outcomes

If we have stable to rising GFR, our long-term outcomes are much better compared to patients with falling GFRs. GFR falling at more than 3 points per year has very bad outcomes. Patients with stable GFR or rising GFR are expected to live much longer and have higher-quality lives. In fact, the trend of your GFR is more predictive of your outcome than your actual GFR.

Let's repeat this fact: the trend of your GFR is more predictive of your outcome than your actual GFR.

The same is true for proteinuria. Some, but not all, kidney patients "leak" protein in their urine. This is called proteinuria. You will know you have proteinuria from your urine tests, and you will see bubbles in your toilet after urinating. Albumin is the most common protein in our blood stream. If we have proteinuria, we lose albumin through our urine faster than it can be replaced by our body. This causes our serum albumin numbers to drop. Increasing proteinuria (more protein in your urine) and decreasing albumin are both strong mortality indicators. If we cannot stabilize these numbers, our outcomes are not good.

However, stable or reduced amounts of proteinuria lead to much better outcomes compared to increasing proteinuria and falling albumin levels. The same is true for stable to rising albumin levels. All of our levels fluctuate slightly with each blood test. What we are looking for are long-term trends over time.

As discussed before, the same goes for blood tests inside the normal ranges. The more blood tests you have in the normal ranges, the better your outcome is predicted to be. The more tests you have outside of the normal range and/or the severity of these tests leads to a worse outcome. The trend of these tests getting worse is again predictive of your future odds.

Excesses lead to falling GFRs, increasing proteinuria, and more numbers outside the normal ranges. A minimalist approach is what we need. We need to strip away as much of our diet as possible to move our numbers back to the normal range. Excesses have to become a thing of the past.

The trifecta is a great scoreboard for us to keep track of over the upcoming months. The trifecta is a big rock for us and tells us if we are winning the war or not.

The lesson for us here is that just stabilizing our current condition leads to a much better outcome. We don't even have to make great gains. In the past, I would get upset when my blood/urine tests did not improve, but were stable. I didn't know at the time that stable was a win.

Validation/reducing variables/repeatable results

You will see I am a big—no, a huge—fan of validating any diet, supplement, or treatment plan to make sure it works for you. Validation of any approach is a huge rock.

We have an incurable disease with no proven cure or treatment. No one can promise we will get better. In fact, 75% of patients have never had a biopsy, so we don't know what kind of kidney disease we have. When you combine this fact with the lack of treatment options and internet craziness, we see patients running in circles and going nowhere.

The reason patients can spend months and years going in circles is the lack of a validation strategy. Blind faith is for healthy people, not for us. We need to validate anything we do through our blood/urine tests. We also need to limit the number of variables during these validation periods.

We suggest using a 90-day period to evaluate the effectiveness of any dietary changes, which is the same as the NKF recommendation.

We ask patients to stick with the program for 90 days and then evaluate the results with their doctor. Your blood and urine tests will give you an objective answer to the effectiveness of our program. If you cheat, substitute foods constantly, and/or take handfuls of supplements daily, it becomes much harder to validate any program. The number of variables that might have changed your blood/urine tests are too numerous to know what worked and didn't work. The normal result from a random approach is that some things get better and some things get worse, leaving the patient more confused and frustrated.

We need to reduce the number of variables to as few as possible for a period of time and then evaluate the results using blood/urine tests. What we need as patients are yes and no answers. Is this working for me or not? Am I winning on the trifecta scoreboard?

If the program or treatment is not working, we need to know so we can try something else. However, the only way we are really going to have a factual answer is by

reducing the number of variables and following a certain program for a fixed period like 90 days. Your doctor will help you evaluate the effectiveness of any program using these test results.

One of the big reasons we advocate validation is we can't say for sure if the SKD approach will work for every patient group. Hypothetically, a group or subgroup of patients will not respond. This has not been reported, but we think validation should be a part of any strategy you pursue for an incurable disease. After all, without validation, it's just guessing, randomness, and wasted time and money.

If you don't get better on our program, we want you to pursue other treatment options until you find something that helps you. You only need 90 days to validate the program and then decide what to do next.

We know what a recommended or proven approach looks like

A dietary approach that meets current guidelines is where most of us should start, since we can easily validate whether this approach is working.

Based on all available research in 2022, a valid dietary approach looks like this:

1. Follow a low-protein, but kidney- and heart-healthy, program using Mediterranean diet guidelines.
2. Only supplement known deficiencies in your diet. This requires a standardized diet and custom protein and vitamin supplementation to meet but not exceed RDAs.
3. Don't go against modern guidelines that increase your risks.
4. Stay on the program for a period of time (90 days) with minimal or no cheating.
5. Validate the results using blood/urine tests and ask for your doctor's input.
6. Check how you are doing using the Kidney Trifecta as a scoreboard.
7. If the program is working, stay on it until improvements stop. This usually takes 18 to 24 months.
8. After improvements have been maximized, start adding food back into your diet or increase the diversity of your diet so it is sustainable long term.
9. The key is staying in the normal ranges and keeping a stable or improving trajectory.

This is the SKD program in a nutshell.

This approach has the advantage of complying with current guidelines from reputable organizations and multiple countries. You can try it for 90 days to validate effectiveness. You and your caregivers can pursue a logical plan to improve your health and objectively evaluate its results while following the best guidance in the world.

Validation is the way we avoid wasting time and stay focused on the right things. A good validation strategy will separate the big rocks from gravel.

Educational goals:

- Your current and historical blood and urine test results are the best information you have to make decisions. Stable to improving test results lead to much better predicted outcomes.
- The trend of your numbers may be more important than the actual numbers.
- You can evaluate your progress using the kidney trifecta.
- Validate anything you try in order to get reliable, objective information to make decisions.
- Reduce as many variables as you can during any validation period.

Patient stories

Jim's story

I have had kidney disease for about four or five years. My kidney creatinine has changed somewhat over the time, going from basically 1.7 and finally ended up a few months ago at 5.1, which was really high. My daughter, Karen, brought my attention to this book, *Stopping Kidney Disease*. And we went from there and started to follow the kidney diet, and the improvements have been very outstanding. The doctors say so, and also I can feel it myself.

About three months ago, I went on the diet. That's when my GFR was 11 and very bad, and the creatinine was very high at 5.1. Since this diet I have gone on with *Stopping Kidney Disease*, my creatinine has dropped to 3.4 and my GFR went from 11 to 19, which was extremely remarkable. In fact, I was told that would not happen.

They told me finally when I hit 11 on my GFR, "you better prepare for dialysis." Hopefully now I am avoiding that situation.

I had two kidney doctors. When I visited the kidney doctor at the University of Michigan, he listened to what I was saying and that I was on this diet. And he said, "okay" and he kind of dropped it, and went on with his discussion with me. He called me two days after my visit to him and said, "Stay on the diet. It's amazing what's happening. And also, take the Albutrix pills," which I was not doing. So I did start those pills according to his recommendation. He is a kidney doctor and he's also a professor, a very wise and capable fellow. And then the doctor in Grand Rapids looked at my labs, and said, "What are you doing? How did you change your kidney function that much?" So he recommended that I stay on this diet as well and to take the Albutrix pills also.

I've lost all the itching that I had before, and all of the weakness that I had before seems to be greatly relieved. It is amazing what it has accomplished so far.

I would encourage everyone with this situation to stick with the diet and listen to what it says in the book on the renal acids and on the AGEs, because those two lists in the book are very helpful. It took a couple of months to realize that there was benefit in this diet. And after a couple of months when my labs started to change, it started to make me much more determined to stay with the diet. And once I've adjusted to eating this diet of salads and vegetables and no processed foods, I became used to it. And it's not what I like, but it's what's best for me.

I was quite surprised that what I was told is to eat a normal diet and follow the DaVita diet, but it does not work. It does not change anything in your labs, whereas *Stopping Kidney Disease* by Lee Hull—if you follow the advice in the book and eliminate the meats and eliminate the dairy products, you will see improvement in your kidney function. And that's what I have seen, which I think I would like to make everybody aware of: That this is useful and helpful to stop the progression of the kidney disease.

CHAPTER 12

SKD diet basics

The next three chapters are an introduction and education to the SKD program. I want to outline and explain the rationale behind each part of our program. My reason is we know that patients who understand the approach and science behind the program have much better outcomes.

We see this issue over and over again. Patients frequently call or email to discuss progress or lack of progress. In almost 100% of cases, lack of progress is a direct result of lack of education on kidney disease and or our program. Patients drop out at high rates when they have not read the SKD book series. Patients who take the time to understand our disease and our options have a success rate three to fives times higher because of education.

I apologize for going into more detail here than some may feel necessary, but it is vital to your future that you understand every issue possible. The statistics don't lie about the impact of education on our outcome.

The SKD diet is outlined in the *Stopping Kidney Disease Food Guide* available on our website, www.kidneyhood.org, or Amazon.com. The SKD diet is a standardized low-protein diet designed to incorporate modern guidance with the lowest possible workload on our kidneys.

Think of the SKD program like a drug in terms of how you measure effectiveness, monitor progress, and decide how long to stay on the standardized program. If you are prescribed a drug, you will keep taking it as long as it is working and you are improving. The SKD program is no different: You should stay on the program as long as you are improving. This approach ensures that you are using factual data (blood/ urine tests) to make your decisions. This approach also ensures you maximize the benefits of the program before making changes to your diet. Stopping while you are still improving makes no sense.

Current data shows the majority of patients can improve several quarters in a row using the SKD program. This means your blood/ urine tests can improve for up to two years. Two years of consistent improvement can lead to big overall health improvements. While we start with a 90-day validation period, you should stay on the program as long as you are improving. You want to get two quarters in a row of similar test results before making any changes.

Sticking with and validating a well-researched plan that matches current guidelines is the biggest rock of all.

The SKD diet was designed to accomplish the following goals:

1. Increase as many good factors as possible that may slow kidney/ heart disease progression.
2. Decrease as many bad factors that may speed up kidney/ heart disease progression.
3. Follow the most up-to-date guidance on the healthiest diets.
4. Be heart-healthy and not increase the risk of heart disease/ calcifications.
5. Provide the lowest possible nitrogen or kidney workload to get immediate results.
6. Provide the lowest amount of supplementation to comply with modern guidelines.
7. Offer the program at a low cost and make it accessible using real foods available in most grocery stores.

Earlier in the book, we listed more than 20 factors we took into consideration when designing the diet.

We calculated the average daily intake of each essential amino acid, vitamin, and mineral to determine if the diet had any known deficiencies. We also calculated the average daily nitrogen load to ensure we had achieved the desired reduction. The combination of the SKD diet, Albutrix, and Microtrix are all integrated to work together. I have avoided discussing low-protein diets in detail to keep things simple, but we need to go over some basics.

Low-protein diet assumptions

A common mistake is to assume vegan or vegetarian diets are low in protein. This is not true when compared to the RDAs for protein. The idea that everyone needs more protein or is protein deficient is a marketing ploy by companies who want to sell more things. Almost all food labels, especially for vegan or vegetarian products, will mention how much protein is included per serving of the item. There is no data to suggest the average American is not getting enough protein per day.

Most of the world recommends .8 grams of dietary protein per kg of body weight to meet RDAs. This includes NIH and USDA. The European Food Safety Authority (EFSA) recommends .83 grams, and the NKF's new recommendation is .6 grams of dietary protein per kg of body weight. Those over 70 years of age may need higher protein amounts according to some studies.

The following table shows average dietary protein intake per day for those on different diets. This data comes from 65,000 participants enrolled in the EPIC-Oxford study. The normal RDA would be 60 grams of protein per day.

Group	Dietary protein intake (in grams)	Exceeds RDA
Meat eaters	90	Yes
Vegetarians	71	Yes
Vegans	64	Yes
Low-protein diet	30	no

As you can see, all groups exceed the RDA for protein intake and are more than double what is recommended for a low-protein diet. While vegans and vegetarians do have lower protein intake compared to meat-eaters, they still consume twice the recommended protein amount for a low-protein diet. The idea that you can go vegan or vegetarian and still comply with guidance is simply not true. However, although vegan and vegetarian diets help, they are not a solution by themselves without significant modifications for kidney patients.

We normally need dramatic reductions in kidney workloads to get better and see the results in our blood tests. When our kidney function is 70% lower than the average person, we need 70% to 80% reduction in workloads to get our numbers back into the normal ranges.

We advocate for .8 grams of total protein per kg of body weight for the following reasons:

1. Less-restrictive diets are easier to follow and stick with.
2. This amount allows you to consume more calories and nutrition from real foods that you can get at your local grocery store.
3. This amount reduces supplementation needs and risks.
4. Albutrix low-protein nitrogen is designed to allow for a higher dietary intake of protein with the same or lower nitrogen load (see next chapter).
5. Older adults may require a higher amount of protein supplementation. In many cases, those over the age of 70 should consume at least 1 gram of protein per kg of body weight per day. As most kidney patients are over 60 years old, .8 grams per kg is a compromise between the general .6 gram per kg recommendation and the 1.0 gram per kg recommendation for older patients.
6. It is easier to start with a dietary protein restriction of .4 grams per kg of body weight per day than a .3 gram per kg restriction, especially if you are coming from a

traditional diet. If you are not able to move back into the normal range with a .4 gram per kg dietary protein restriction, you can try a .3 gram per kg dietary restriction later.

7. To date, we have not documented that the .3 grams of protein per kg of body weight restriction is superior to the .4 gram restriction when Albutrix is used. Reducing to .3 grams per kg per day has not been needed with the exception of late-stage 5 patients who are trying to avoid imminent dialysis.

Again, both restrictions work, but we feel that .8 grams of total protein per kg of body weight is much more realistic and easier to follow. This guideline also allows us more calories while still complying with recommended diet guidelines.

Basic components of the SKD diet

The SKD diet is low protein, but that is only one aspect of the diet. Below is an outline of the dietary goals of the diet, focusing on increasing good factors and decreasing bad factors for kidney disease.

Limit factors that increase kidney disease progression:	
Dietary protein intake	.4 grams per kilogram of body weight
Sodium	2,200 mg per or less
Plant-based phosphorus	no limit at this time for most patients
Potassium	3,500 mg per day or your personal limit
AGEs	very low
Renal acid load	Net negative acid load for the day
Saturated fats	low intake
Increase the good factors:	
Lowest nitrogen protein food (keto acid analog)	
Antioxidants (Orac Scale)	30,000+ per day
Dietary nitrates	150 mg or more
Fiber	30+ grams
Heart-healthy	consume foods that are heart healthy
Nondietary Factors:	
Exercise	Enough to keep resting heart rate below 65 and stable
Blood pressure	120/80 or as close as possible and stable
Weight	Upper end of healthy BMI of 25 and stable

This approach has been used by hundreds of patients and has proven to be very effective in improving the kidney trifecta of increasing or stable GFR, moving blood tests back to the normal range, and improving or eliminating proteinuria.

The amounts of each component of the diet listed above are based on specific reasons. In the name of education, let's go over each issue quickly. We already covered protein amounts, so let's dive into the others.

Limit the bad factors

1. Sodium- Follows the traditional sodium restriction for kidney patients of 2,000 to 2,200 mg per day.
2. Potassium- Straddles the middle ground of recommendations at 3,500 mg per day. Some patients will need a higher potassium restriction than others.
3. Plant-based phosphorus- We started with a 1,200 mg restriction, but now believe the RDA of 1,539 mg for men and 1,189 mg for women will keep most patients in the normal range. The reason is plant-based phosphorus is only absorbed at a 40% rate, and Albutrix has the extra benefit of being a phosphorus binder. Animal-based phosphorus is absorbed at a 70% to 80% rate. Inorganic phosphorus in processed or frozen foods is absorbed at 80% to 90% rates. The combination of low absorption for plant-based phosphorus and Albutrix as a phosphorus binder is enough to keep most patients in the normal range. We recommend taking Albutrix with each meal for this reason.
4. Advanced glycation end products (AGEs)- These are limited, but an exact calculation for them does not exist. AGEs are the browned parts of meats, breads, and other foods that increase both kidney and heart disease progression. Results of several animal and human studies show that the restriction of dietary AGEs has positive effects on wound healing, insulin resistance, and cardiovascular diseases.
5. Renal acid load- This is kept in the alkaline or a net negative for the day. Acidosis and renal acid loads are strong drivers of kidney disease progression. Any diet that contains meats, fish, eggs, and so on will be high in acid load and should be avoided. When you see a kidney diet book using chicken, beef, fish, pork, dairy, or eggs, you are guaranteed to have a high acid load. Avoid these diets if you really want to improve.
6. Saturated fats- These fats increase the risk of heart disease and stroke, so they are limited in just about every diet.

Increase the good factors

1. Lowest-nitrogen keto acid analog or protein supplement- reduces the workload on your kidneys and allows for a less restrictive diet.
2. Antioxidants- Increased antioxidants to 30,000 ORAC units per day. Kidney patients have very high oxidative stress compared to healthy patients. Oxidative stress is also a driver of kidney and heart disease progression.
3. Polyphenols- Both healthy and kidney disease patients are at lower risk of kidney and heart disease with increased polyphenol intake.
4. Dietary nitrates- Nitrates from plant-based sources (not supplements) are converted by your body into nitric oxide which can relax blood vessels and lower blood pressure. Beets are often advertised as a good source of nitrate due to their high nitrate content.
5. Fiber- dietary fiber intake of 30 grams per day is pretty standard for heart-healthy diets (27-38 grams per day or more).

As you can see, we tried to add as much nutrition as possible to model kidney patients with the best outcomes from different studies. We also tried to model the Mediterranean diet goals.

We are adding new recipes to the SKD diet as we find time and can design recipes that taste good, are low cost, and meet our guidelines.

Put your time and energy into diet above all else

In 12-month follow-ups with patients on the SKD diet, program compliance was the number one factor in whether or not patients saw improvements. Program compliance was also the number one factor when patients were struggling in the short term. This again is more proof that excesses are strong drivers of disease progression.

My point here is to focus your valuable time and energy on what really matters. Overhauling or changing the dietary habits we have had for years does take some effort, but this is also where all of the good comes from. I still struggle after decades. I still love all the foods I shouldn't eat, but I also know what I need to do to improve my outcome.

Dietary perfection is not needed, but a long-term commitment to improving or changing your outcome is. Don't beat yourself up or assume you should just go crazy

now that you have cheated. We all break the rules, but the secret is getting back on the program at the next meal.

Dietary compliance for at least the validation period (90 days) is a big rock and will be the biggest factor in your improvements. We want to get away from randomness and stick with a solid plan for at least 90 days so we can validate the approach. We want results we can trust and use to make great decisions.

After 90 days, you will have built new skills and started documenting your improvements. In fact, it's all a downhill ride after the first 30 days.

If we want to get good results, the fastest way is to follow a program that has worked for other patients and doesn't go against modern guidelines.

Other diets and issues

The SKD diet is not a miracle or magic. It does take some work. However, it is a logical, safe, and integrated dietary approach that follows modern guidelines, meets RDAs, and produces repeatable results across different patient groups.

When we are asked about other diets, it's very hard for us to have an opinion. We run into several obstacles when evaluating other diets. The two main obstacles are that the diet — or the combination of the diet and supplements — do not match best recommendations, nor do they cover nitrogen load, vitamins, and minerals.

The essential amino acid, vitamin, and mineral profile of any diet has to be calculated first. Only then can the effectiveness of an integrated program be validated or judged. Combining random diets and supplements has no record of success and is not recommended by any organization or country.

Will Albutrix and Microtrix work in combination with other kidney diets? Likely, but we would never know for sure unless we did the research and calculations.

The reason to stay on the SKD diet for the full 18-24 months is you can improve by meaningful amounts for a very long time. If you cut the program short, you never know how far you could have gone. We are constantly astonished by how much patients improve over two years.

The SKD program is well thought out, matches best guidance, and has been used by hundreds of patients. The win for us is following a plan and sticking with it long enough to change our outcome.

You don't have to waste time, money, or energy doing the work. We have done all of it for you.

Educational goal:

- The SKD diet is based on a kidney-friendly version of the Mediterranean diet guidelines.
- This approach combines the lowest possible workload on your kidneys with the least restrictive diet.
- Short-term results have been validated, and long-term studies on the effectiveness of the diet are underway.
- Everything is calculated for you in the *Stopping Kidney Disease Food Guide*. The nutritional labels in the *SKD Food Guide* are the most complete of any kidney diet guide.
- The key here is to get on the SKD diet for 90 days and then get your kidney blood studies to determine the trend.

CHAPTER 13

Keto acid blends (Albutrix S3, S4, and S5)

The next two chapters are about supplementing deficiencies in the SKD diet. Every diet has deficiencies, and how we handle these deficiencies matters greatly to us when we have a disease of excesses and when heart disease is the number one killer of kidney patients.

We need to optimize our outcomes by lowering risks, not increasing them. We also need to lower the workload on our kidneys by the maximum amount possible.

Again, I want you to understand that your diet, exercise, and lifestyle changes are what allow you to get better.

The primary job of any keto acid blend (or the job of any protein supplement) is to make low-protein diets nutritionally safe by providing up to the RDAs for each essential amino acid. If keto acid blends can't do this effectively, they are worthless to us from a nutritional and safety point of view. Long-term safety and nutrition is the name of the game, and that is exactly what a keto acid blend should do: provide safety, reduce risks, and control our blood work.

We also want to avoid malnutrition issues and we don't want to contribute to the progression of heart or kidney disease progression. Keto acid blends of the past actually increased risks and increased workload on our kidneys due to high calcium content and higher nitrogen loads. We need a different approach to get better results.

A low-protein diet and protein supplement must be integrated to achieve our goals of having the lowest possible kidney workload, complying with modern guidance, and ensuring RDAs are being met. Integration is the only possible way to meet current guidelines. Integration is the only way to ensure all RDAs are being met for each essential amino acid in the correct amounts. Any other approach is randomness and guessing which has a very poor track record and is not recommended by any organization.

Reminders

As a reminder, keto acid analogs are nitrogen-free versions of essential amino acids, meaning they reduce the nitrogen load on our kidneys. Foods that contain protein

also contain nitrogen. We see this nitrogen load as BUN on our blood tests. BUN is toxic waste from our dietary protein intake.

Note: The availability of keto acid analogs or keto acid blends differ from country to country. Regulations also differ by country. Depending on where you live, keto acid blends can be classified as foods, medical foods, or drugs. This difference is more common than most of us think. In the USA, everyday things like niacin can be classified as an OTC supplement, a speciality medical food, or a drug depending on its use and design. We will be talking about different keto acid blends, but we want to be clear that every country has different rules and regulations. We have patients in more than 25 countries, so it's impossible to write for one standard. No advice is being given on drugs. We are simply providing examples of issues to educate patients. Always check with your doctor first before beginning a treatment.

Defining the role of keto acid blends for kidney patients

If we define exactly what we want from a keto acid blend, we can eliminate guessing or random approaches.

The only jobs of a keto acid blend are to:

1. Provide any essential amino acids not provided by a standardized diet up to the RDA and no more. This requires that the keto acid blend be integrated into the standardized diet.
2. Provide the lowest possible nitrogen workload for a less-restrictive diet. This again is only possible with integration.
3. Reduce/eliminate ingredients that go against guidelines or increase risks (such as high calcium intake).
4. Attempt to reduce or slow heart disease progression in stage 3 and 4.
5. Allow us to change our dietary options as our blood work changes, while staying in the normal ranges over time.
6. Be formulated in a way that is diabetic-friendly and does not increase blood sugars. Low-protein diets are already higher in carbohydrates, so care must be taken not to use high glycemic starches, sugars, and related ingredients as main ingredients.

Let's go through how Albutrix meets each one of these goals:

1. **Provide any essential amino acids not provided by a standardized dietary intake up to the RDA and no more.**

   Albutrix is integrated with the SKD diet. The average dietary intake for each essential amino acid was calculated for the diet. Albutrix contains known essential amino acid deficiencies up to the RDA.

   This approach is the only method that complies with current precision nutrition guidelines to meet RDAs but not exceed them. Integrating Albutrix with diet automatically lowers nitrogen load by eliminating any excess amino acid intake.

   Integration is a requirement for the best outcomes and the only real way we can meet or match the best and most modern guidance. Integration also provides safety against malnutrition issues. Random approaches are likely not safe over the long term as everything is unknown.

2. **Provide the lowest possible nitrogen workload for a less-restrictive diet.**

   Integrating Albutrix with the SKD diet assures the lowest possible nitrogen workload while providing the RDAs. Nitrogen workload is the easiest way to measure how much workload any protein supplement will put on your kidneys. The amount of nitrogen in your protein supplement determines how restricted your diet has to be.

   Remember our BUN example from earlier in the book? The entire reason low-protein diets started and the reason dialysis was invented was to lower blood urea nitrogen (BUN) levels. Both dialysis and low-protein diets have other benefits, but their primary purpose is to manage toxic nitrogenous wastes that can kill us in a few weeks if they are not removed.

   If the primary reason for dialysis and low-protein diets is to reduce nitrogen waste workload, then nitrogen content is one of our primary concerns as kidney patients. The lowest nitrogen keto acid analog will yield the best results with the least restricted diet.

   As you can see in the table below, amino acids — which are no longer recommended in 2022 — contain about 600% more nitrogen compared to Albutrix. Similarly, pre-2017 high-calcium keto acid blends contain 300% to 500% more nitrogen than the Albutrix series.

Type of keto acid analog	Estimated nitrogen content for daily serving
Amino acid only (not recommended in 2022)	1,200 to 1,600 mg
Pre-2017 (Calcium-based) keto acid analogs	500 to 900 mg
Post-2017 modern keto acid analogs (Albutrix)	150 to 200 mg

At the same time, this means that more dietary protein is allowed in the diet for a similar nitrogen waste workload. The lower the nitrogen load in your keto acid blend, the more protein you can have in your diet.

Type of keto acid analog	Dietary protein allowed per day
Amino acid only	20 grams
Pre-2017 (Calcium-based) keto acid analogs	22.5 to 25 grams
Post-2017 modern keto acid analogs (Albutrix)	30 grams

Note: Every food has a different amino acid profile, so this is only an estimate based on average nitrogen content.

The keto acid blend with the lowest nitrogen will provide the biggest improvements and or allow the least restrictive diet. Nitrogen content of keto acid blends will directly affect your BUN and creatinine levels. The lowest possible nitrogen content is a key part of low-protein diets.

3. **Reduce/eliminate ingredients that go against guidelines or increase risks (such as high calcium intake).**

   Pre-2017 keto acid blends were based on research from the 1970's using high-calcium keto acid blends. To be fair, these blends made sense at the time, as only stage 5 patients were treated and the calcium RDA was 2,000 mg per day. However, in many cases, these products are still marketed to all kidney patients today. As a reminder, vascular calcification is the number one killer of kidney patients, so this issue matters greatly to us.

   As discussed, in 2017 the recommendation for daily calcium intake was reduced to 800-1,000 mg, with the warning that calcium in excess of this amount increases rates of heart disease and death. Considering that most low-protein diets average around 750 mg of calcium per day, we should limit our calcium intake from keto acid blends to no more than 250 mg per day to stay within guidelines.

Please note that if you are following another diet other than a low-protein diet, you need to correctly calculate calcium intake to make the best decision for you.

Albutrix S3 and S4 were designed to have no or low calcium to reduce the risks of accelerated heart disease, reduce nitrogen intake, allow for earlier and safer intervention, and comply with the most modern guidelines.

Although the high-calcium keto acid blends (over 250 mg) do not follow current guidance, they still have a purpose and are designed for a specific group of patients. Stage 5 patients may not be able to keep magnesium levels in the normal ranges, so more modern magnesium-based keto acid blends may not be appropriate. These high-calcium blends should only be used by stage 5 patients. Our labels provide clear guidance on this issue.

In addition, over 40 countries limit high-calcium keto acid analogs to certain patient groups. Ketosteril, a high-calcium keto acid analog blend, states on its label that their product is intended for:

"patients with a glomerular filtration rate (GFR) between 5 and about 15 ml/minutes."

Restrictions vary by country, but most countries limit high-calcium keto acid analogs (250+ mg) to stage 5 patients only.

Based on this, we've classified which keto acid blends are appropriate for each stage of kidney disease:

Stage of kidney disease	Keto acid blend choices
Stage 3 (GFR 35+)	Albutrix S3
Stage 4 (GFR 15 to 35)	Albutrix S4
Stage 5(GFR of 15 or below)	Albutrix S5 (250+ mg of calcium)

Recommendations have changed over time, and you may notice this in new versus older Albutrix labels. The original recommendation for Albutrix S5 was a GFR up to 20, but now with data from patients, we have lowered the recommendation to a GFR of 15 or below. S4 is now 15 to 35, and S3 will be 35+ in the future.

4. **Attempt to reduce or slow heart disease progression by replacing calcium with magnesium.**

   Magnesium is one of the body's main calcification inhibitors. Unless you are a stage 5 patient, you should always be taking the highest magnesium and lowest calcium keto acid analog you can safely tolerate for these reasons:

   1. Low magnesium levels are associated with faster progression of CKD.
   2. High magnesium levels may lower blood pressure.
   3. Magnesium may reduce vascular calcification.
   4. Magnesium intake is not restricted by NKF or AHA (unlike calcium).
   5. **Magnesium keto acid analogs are not restricted by any country, but calcium-based keto acid blends are.**
   6. Kidney patients with magnesium levels in the high end of the normal range have a survival advantage over patients with low magnesium levels.
   7. High magnesium intake is associated with a lower risk of major cardiovascular risk factors such as metabolic syndrome, diabetes, hypertension, stroke, and total cardiovascular disease.
   8. Using magnesium-based keto acid blends allows us to follow current guidelines and not go against NKF or AHA recommendations.

   Unfortunately, old data holds us back again. The belief in the 1970's was that magnesium was bad for patients, as products were specifically designed for those in stage 5. However, in 2022, we know that magnesium is superior to calcium.

   Recently, formulations for keto acid blends have changed from calcium-based to either magnesium-based or a blend of calcium and magnesium to reduce calcium intake. High-calcium keto acid analogs (250+ mg) will likely be phased out over time due to risks and or limited to stage 5 patients.

   Below are the magnesium and calcium levels for the Albutrix Keto acid blends:

Keto acid blend	Magnesium content	Calcium content
Albutrix S3	360 mg	0 mg
Albutrix S4	180 mg	180 mg
Albutrix S5	0 mg	459 mg

Addressing the number one killer of kidney patients

We must address the number one killer of kidney patients, vascular calcification, as early as possible. This is why magnesium is needed to replace calcium in keto acid blends. The difference can be seen in a test called T50. T50 is a test used to calculate future risk of vascular calcification. Low T50 scores predict faster heart and kidney disease progression, while high T50 scores predict slower heart and kidney disease progression.

In a study of 460 kidney patients stage 2-4, each significant drop in T50 increased rates of heart disease by 28% per year. In another study of 2,785 patients, lowering T50 increased rates of heart attacks by 38%. These kinds of studies are why the NKF and every country changed calcium guidance.

Magnesium intake improves T50, so we use magnesium instead of calcium in an attempt to decrease future heart disease risks and improve T50 levels. Calcium intake reduces T50 levels, which is one of the reasons calcium intake guidelines have changed. This is why Albutrix S3 contains no calcium and Albutrix S4 has low calcium levels.

Every aspect of our care must try to address future issues and address the source of those issues, not just the symptoms. Albutrix S3 and S4 allow early and safe interventions.

5. **Allow us to change our dietary options as our blood work changes, while staying in the normal ranges over time.**

The 1970's approach to keto acid blends was a one-size-fits-all approach. Everyone using these products was assumed to be stage 5 and low in calcium. The problem is this approach only covers a very small portion of individuals, and doesn't match up to many kidney patients' real-life needs or modern guidance. The rest of us still need to keep everything in the normal range, and we can't do that if we only have one treatment option that isn't even designed for us.

Albutrix S3, S4, and S5 are designed to allow you to control your magnesium and calcium intake so you can keep your blood work in the normal ranges. If your calcium is running high, you can switch to a lower calcium version of Albutrix. The same goes for magnesium intake — you can lower or increase magnesium intake to keep your blood work in the normal ranges.

If keeping blood work in the normal range is one of our key goals as kidney patients, we need our options to change as our disease progresses or as our

dietary changes impact our calcium or magnesium levels. One-size-fits-all models do not reflect the real life of a kidney patient, which is why Albutrix comes in different versions to meet patients' specific calcium and magnesium needs.

All Albutrix series are interchangeable and compatible with the SKD diet. Patients are expected to change Albutrix formulations as needed based on current blood test results.

6. **Be formulated in a way that is diabetic-friendly and does not increase blood sugars.**

   A large portion of kidney disease patients are diabetics. Low-protein diets have higher carbohydrate intake to replace protein-related calories. Keto acid blends should not add to the carbohydrate intake with each meal. My son is also a Type 1 diabetic, so we have a lot of experience with blood sugar issues. His 24-hour glucose monitor shows us exactly what happens to his blood sugar based on eating different foods. Several doctors have also asked us not to include high glycemic sweeteners, starches, or fillers due to the concern about spiking blood sugars with a higher carbohydrate diet.

   In many cases, you will see keto acid blends with high glycemic starches (maltodextrin) or even table sugar to make keto acids more palatable. These should be avoided if you have any blood sugar issues or are diabetic. Another option is to take these blends on an empty stomach and watch your glucose monitor to see if your blood sugar is raised by added sugar, fillers, or starches.

   Albutrix is formulated using prebiotic fiber that does not increase blood sugars and helps grow beneficial gut and colon bacteria. By design, Albutrix does not spike or increase blood sugars.

Evaluating options in different countries

We often get emails or calls asking about keto acid availability in different countries. Some countries have more than five options, while most have one or none. Generic or keto acid analog clones exist in great numbers outside the US, and some of these are becoming available in the US. These blends can be flavored powders or pills.

Albutrix ships free worldwide, but there are some countries that are harder to ship to. You can email us at support@kidneyhood.org to inquire about shipping to your country. If we cannot ship to you, let me give you some red flags to look out for when shopping for keto acid blends in any country:

1. The product does not disclose nitrogen content.

   Lack of nitrogen disclosure is always the first cause for concern when looking at a keto acid blend, and suggests something is being hidden from us.

   No nitrogen disclosure for kidney patients is like buying vitamin C tablets that don't tell you how much vitamin C is in each pill. It's unthinkable when nitrogen reduction is the primary reason for low-protein diets.

   Call or ask the company to disclose nitrogen content so you can plan how restrictive your diet has to be. In every case we have seen so far, lack of nitrogen disclosure equals much higher nitrogen content.

   If you can get them, you are better off sticking with reputable products with disclosure.

2. The product has a higher nitrogen content due to cost cutting.

   Read the label for the top one or two ingredients, as these are the ingredients with the highest content levels.

   When nitrogen is not disclosed, we see sugars, cellulose (a form of wood pulp), maltodextrin (high glycemic starch), sucrose, and gelatins as the primary ingredient, with cheaper amino acids sometimes being used as the second or third ingredient. Using high levels of these ingredients dramatically reduces costs but also greatly increases nitrogen content by hundreds of percent.

   Keto acid analogs are very expensive, but they still should be the top ingredients if cost-cutting measures have not been taken. Every product, including ours, will have binders, coatings, lubricants, or excipients for production, but these should be at the end of the ingredient list, not the beginning.

   Cheaper clone products typically use starches and fillers as the primary ingredient to either cut costs or because their manufacturing facility is older and lacks current technology. I am sure exceptions may exist, but so far we have not found any.

   Keto acid blends with no nitrogen disclosure that use fillers as the first ingredient should be avoided in most cases.

3. The product does not provide guidance on use, or it is advertised to be used by all kidney patients regardless of disease stage.

   Clone products typically advertise use by all patients regardless of disease stage. This again is a red flag because we know that different stages have different risks,

needs, and opportunities. One-size-fits-all products don't help us reduce risks or allow us to change as needed to keep our blood tests in the normal ranges. Clear guidance results in better products for patients and better outcomes.

4. Product use goes against current guidance recommendations

   Reputable products and companies will not ask you to go against modern guidance unless they are solving a specific problem, in which case they will explain the problem with guidance on their boxes or labels. What are we to think as patients when companies advocate we go against or ignore the best or most up-to-date recommendations? The older high-calcium keto analogs (250+ mg) are still marketed to all patients despite going against guidelines. The same is true for amino acid supplements. In these cases, education is always our best defense.

5. The product is not integrated with diet.

   Keto acid blends that integrate with diet are required if our goal is to meet the RDAs and not exceed them. Extra, unknown, or random protein supplementation has never been recommended. An integrated approach leads to the lowest possible kidney workload by meeting RDAs. Every diet has a different amino acid profile. Therefore, every diet needs a custom keto acid blend to properly meet RDAs for each essential amino acid. Albutrix is a custom keto acid blend integrated with the SKD diet.

   No integration with diet equals randomness and guessing about our nutrition and our long-term health and safety. If you get one thing from this book, it should be that randomness does not work for us. We need well-thought-out solutions to any obstacles that stand in the way of us following the best and most modern guidance.

A patient's perspective is our superpower. I personally led the R&D team for Albutrix. We worked for several years to solve the major drawbacks of keto acid blends and give us access to better options. Options that solve real-world problems and comply with current guidelines. We all deserve the best healthcare available, but kidney patients have not had this option until now. I will never forget being denied treatment based on where I lived. This is why we ship worldwide for free.

I also know what it's like to find a recommended solution and then be told you can't use it because the risk of accelerated heart disease is too high.

Albutrix was granted several patents for its technology, use, and approach to reducing nitrogen and calcium content by using magnesium.

Keto acid blends are the key to lowering kidney workload and getting your numbers back into the normal range. These blends do so in a way that complies with the best guidance and gives us options for the least restrictive diet and the ability to change as our blood work changes.

Money-back guarantee

- Albutrix S3, S4 and S5 are guaranteed to contain the lowest nitrogen content of any keto acod analog or a protein supplement for kidney patients.
- Albutrix S3 and S4 are guaranteed to contain the lowest supplement calcium of any keto acid analog for kidney patients.
- Albutrix S3 and S4 are guaranteed to contain the highest amount of magnesium of any keto acid analog for kidney patients.
- Our Patented technology allows kidney patients to get measurable results with less restrictive diets while complying with 2022 nutritional guidance from the National Kidney Foundation.

Albutrix serving and dietary protein chart

For dietary planning purposes, each Albutrix pill equals 5 grams of dietary protein. If you need 30 grams of protein per day from Albutrix, you would take six pills per day.

We recommend taking Albutrix with each meal, as it also works as a phosphorus binder to further reduce phosphorus intake. The SKD diet will average 30 grams of protein per day, using the data and recipes in the *SKD Food Guide* book. We have tried to do as much of the work for you as possible.

This chart will make things easier for you.

		Total protein per day from all sources		
Body weight lbs (imperial)	Body weight kg	Total protein grams per day (.8)	Dietary protein intake	Albutrix serving (pills) per day
100	45.45	36	18	4
110	50.00	40	20	4
120	54.55	44	22	4
130	59.09	47	24	5

140	63.64	51	25	5
150	68.18	55	27	5
160	72.73	58	29	6
170	77.27	62	31	6
180	81.82	65	33	7
190	86.36	69	35	7
200	90.91	73	36	7
220	100.00	80	40	8
230	104.55	84	42	8
240	109.09	87	44	9
250	113.64	91	45	9

Note, you should calculate protein needs based on your ideal weight, not your current weight if you are overweight. For example, if your current body weight is 250 lbs or 113 kg, but a normal weight for your height is 170 lbs or 77 kg, you should use protein and Albutrix recommendations for your ideal body weight. This is consistent with other nutritional recommendations for patients who may be overweight.

Education goals:

- Keto acid blend regulation and availability vary by country.
- The keto acid blend with the lowest nitrogen content will provide the biggest increase in GFR and largest reductions in BUN and creatinine, while using the least restrictive diet.
- Calcium-based keto acid blends (250+ mg) should be avoided unless you are a stage 5 patient.
- Magnesium is superior to calcium for stage 3 and 4 patients in every way.
- Keto acid blend integration with dietary intake is a requirement for the best results and lowest kidney workload.
- Learn to read labels and ask questions. Albutrix and Ketosteril meet all recommendations for transparency and disclosure.

CHAPTER 14

Microtrix low-dose multivitamin

We developed Microtrix once-a-day multivitamin when we found out most patients were taking high-dose vitamins meant for dialysis patients. I incorrectly assumed everyone knew the difference between dialysis and pre-dialysis vitamins. When we have a disease of excesses and our kidneys are having trouble maintaining normal levels, we should not be using high-dose vitamins.

This story is similar to keto acid blends, in that everything in the past has been developed for dialysis or stage 5 patients. High-dose vitamins are needed by dialysis patients due to the nature of the dialysis process. Dialysis may remove large amounts of vitamins from the body, so these need to be replaced by a high-dose multivitamin formulated specifically for dialysis patients.

However, not a single country or organization in the world recommends high-dose vitamins for pre-dialysis patients. Despite this, taking high-dose vitamins is still the most common mistake we see patients making. I believe the thinking is more is just better. We don't have any way to remove excesses, so why are we taking excess amounts of something?

Integration and standardization solve the problem again

To determine the appropriate formulation for Microtrix multivitamin, we first calculated the average dietary intake of all vitamins and minerals from the SKD diet. Second, we looked at the NKF and other recommendations for vitamin and mineral intake.

Every diet has excesses and deficiencies that we need to address. If 100% of the RDA for a vitamin or mineral is met with dietary intake, then that element should not be in our multivitamin. If dietary intake meets 70% of the RDA, then we should only supplement 30% of the RDA to equal 100%.

This approach is the only way to follow current guidance and meet RDAs with the lowest possible workload on our kidneys. However, if we wanted to comply with NKF guidance on our own, we would have to calculate dozens of vitamins and minerals for each meal and then try to supplement the exact amounts of each. We would have vitamin bottles stacked to the ceiling while trying to cut each one down to the right serving size. It's impossible to meet guidance in real life without an integrated

vitamin. I personally tried this as an experiment, and I only lasted three days. It was a crazy amount of work and I could never get the serving sizes right.

Microtrix ships free with Albutrix because we wanted to ensure RDAs are being met. This kind of custom, integrated low-dose vitamin is the only way to follow current guidance and meet our RDAs with the lowest possible kidney workload.

Read the labels before buying

If you are a pre-dialysis patient, reading labels is an easy way to determine if a vitamin is right for you. If any vitamin or mineral provides 100% of the RDA or more, then it is not designed for you. Meeting or exceeding 100% of the RDA means that you would not consume any amount of that vitamin or mineral in your diet. However, dietary intake cannot be zero with any diet — it's impossible.

You can also look at B vitamin content to see if the product is designed for you. If B vitamins are all over 200% and the product is marketed to kidney patients, then the original formulation was for dialysis patients. These products are not recommended for pre-dialysis patients.

Centrum, a very popular multivitamin, may contain 800+% of the RDA for B12 as an example. We know that high-dose B vitamins may increase the speed of kidney disease progression. These kinds of vitamins should be avoided.

In short, 100% or more of the RDAs on the label is a red flag for all of us not on dialysis.

If you are considering vitamin choices, you should look for vitamins that integrate with diet.

Read the labels before buying so you know who the vitamin was designed for. Ask your doctor before taking any vitamin with more than 100% of the RDA.

Microtrix differences you should be aware of

Vitamin K2

Vitamin K comes in two forms: K1 and K2. Vitamin K1 is common in plant-based diets that include leafy greens. Vitamin K2 intake comes from fermented foods, eggs, meat, and dairy.

Vitamin K2 has no US RDA. However, vitamin K2 intake is low in the SKD diet (and in all low-protein diets). Recent studies and evidence are accumulating that vitamin K deficiencies exist in kidney disease patients.

Vitamin K is what helps your body put calcium into your bones and inhibit blood vessel calcifications. Studies have shown that increased vitamin K1 and K2 intake is associated with a 14 to 32 percent reduction in heart disease risk. The goal here is to ensure you have adequate vitamin K2 in your system, but not to use high doses or serving sizes of it.

Both magnesium and vitamin K2 help reduce the speed of blood vessel calcifications. The combination of Albutrix — which has low or no supplementation of calcium and a higher magnesium content — with Microtrix — which includes vitamin K2 — should reduce the risk or speed of calcifications developing. Reducing calcifications can help us stop or slow the progression of heart disease.

However, vitamin K supplementation is not recommended for patients on blood thinners like warfarin. This is especially true when vitamin K intake is greater than 50 mcg. For this reason, we only include 45 mcg of vitamin K2 in Microtrix. We wanted to stay below this 50 mcg threshold, and several countries' RDA for vitamin K2 is 45 mcg.

If you take blood thinners, please talk with your doctor about taking Microtrix or a low dose (45 mcg per day) of vitamin K2. Your doctor is the one who should help you decide if vitamin K supplementation is an issue for you or not.

Vitamin D

Vitamin D is not included in Microtrix. This is because most stage three patients do not need vitamin D, and only some stage 4 patients need it. In addition, patients get very different amounts of vitamin D based on where they live. I live in the northern US, so I only take vitamin D in the winter months.

The risks of vitamin D excesses or deficiencies are well known. High doses of vitamin D can cause kidney failure. Low serum vitamin D levels may increase the speed of kidney disease progression.

We felt that vitamin D was too risky to supplement as part of our program. The amount of patients' vitamin D intake varies wildly depending on several factors. Additionally, vitamin D supplements are available just about everywhere, so patients and caregivers can choose whether to supplement based on their individual needs.

However, patients should be very careful with vitamin D supplementation and always have their vitamin D levels checked during every blood test. Always discuss vitamin D supplementation with your doctor first.

Iron

Iron is not supplemented in Microtrix for similar reasons to vitamin D. Iron balance is impaired as kidney disease progresses. Stage three and four patients may not have iron issues, but stage five patients may have significant issues with both iron and anemia.

Newer research on the risks of intravenous or high-dose iron intake lead us to believe iron supplementation should happen on a case by case basis and be discussed with your doctor.

It should be noted that plant-based sources of iron are not absorbed as well as animal-based iron. Patients on low-protein, vegetarian, or vegan diets need to be monitored for iron levels. Iron levels should be measured on all blood tests so you can keep track of where you stand.

Microtrix is a solution to random approaches

Microtrix is a once daily vitamin supplement that eliminates the randomness and malnutrition risks that historically plagued low-protein diets. Microtrix ensures long-term nutritional safety by meeting RDAs only when dietary intake is not sufficient.

For the first time in history, we can follow the best and most modern guidance when we use the SKD combination of the SKD diet, Albutrix, and Microtrix.

Educational goal:

- High-dose multivitamins are not recommended for patients who are not on dialysis.
- Any multivitamin has to be integrated with your diet to meet but not exceed the RDAs.
- We should only supplement known deficiencies.
- Read the labels and scan for anything over 100% of the RDA.
- Avoid vitamins with more than 100% of the RDA or that are not integrated with your diet.
- Microtrix has done all the work that you need to do and avoids taking more than 100% of the RDAs.

CHAPTER 15

Integration: The real key to success

I want to drive home what makes the SKD program different from past approaches to managing kidney disease, using an example that many of our patients face every day. I also want to emphasize why you should not change the program for at least the first 90 days and follow the program "as is" without major changes.

Let's assume you want to meet NKF's RDAs for the following vitamins, minerals, and amino acids:

Folic acid

Vitamin C

Vitamin D

Vitamin A

Vitamin E

Calcium

Potassium

Phosphorus

Sodium

Acid load

Each one of the nine essential amino acids

How would you accomplish this goal in real life?

Would you look up the nutritional value for each food in each meal and then add up each one several times per day? In this simple example, you would calculate 50+ different values for each meal. Assuming you eat three meals and at least one snack per day, you are talking about 100+ calculations per day. These calculations become even more complicated if you take supplements in addition to your diet. This kind of approach is not sustainable in real life, but it's been what was required in the past to really follow guidance and be successful on a low-protein diet.

For the record, we have never met anyone who knew how many vitamins, minerals, or amino acids they were consuming in their kidney-related diet. Every past approach has been to guess or to assume the patient will do all of this work.

However, knowing these values is the only way to ensure we are getting the nutrition we need, while not contributing to our disease of excesses. So how can we realistically track our vitamin, mineral, and amino acid intake to be sure we are getting the correct amounts? The answer is integration.

Why integration is needed

The only possible way for us to follow the best advice, ensure the lowest workload on our kidneys, and ensure the RDAs are being met is through integration. Integration means that our diet and supplements are specially designed to work with and complement each other.

To achieve this, we must calculate dietary intake from a known or standardized diet first. Then, and only then, can we determine if any supplementation is needed. If a deficiency exists, we should supplement only up to the recommended amounts or RDA.

Yes, this does require a custom approach with a standardized diet, custom keto acid analog, and custom multivitamin. But for the first time in history, we can get complete nutrition, meet RDAs, not contribute to excesses, and ensure the lowest possible and safest kidney workload.

Why random approaches don't work

Assume you start on a random diet, a random protein supplement, and a random multivitamin to help manage your kidney disease. None of these tools are integrated to work together.

Now ask yourself the following questions about using this approach:

Am I meeting, exceeding, or falling short of the RDAs?

Am I contributing to excesses or deficiencies?

How much workload am I putting on my kidneys?

What is the nitrogen content when I combine the diet with these supplements?

What will happen on my next blood test?

Am I contributing to kidney disease progression?

Am I contributing to heart disease progression?

Am I following the recommended dietary guidance?

What is the overall goal of combining my diet with these supplements?

What corrections will I make if my results are not good?

Your answer to all of these questions will inevitably be: "I have no idea." This is the problem we tried to solve. You should know the answers to all of these questions.

Both you and your doctor will also likely be disappointed about your next blood test results, as there is either no improvement or a decline in your numbers. This is the primary reason why doctors do not believe in a dietary approach to kidney disease, as they often have never seen it work in real life. Your doctor is right to be suspicious or less than enthused. He or she has likely heard hundreds of patients attempt to deal with their chronic disease by following a diet or internet advice, only to watch them fail, give up, or get no measurable results.

In addition to these reasons, no reputable organization in the world recommends using random combinations of diets, supplements, and vitamins. The very combination of random things goes against 100% of all medical or dietary guidance.

Complete integrated solution

This is why a custom program with the best low-protein diet, protein supplement with lowest nitrogen load, and low-dose multivitamin is required. This integration ensures simplicity, safety, and repeatable results.

The *SKD Food Guide*, Albutrix, Microtrix, and our support is the first complete solution to low-protein diets. We have calculated average intake for more than 40 amino acids, vitamins, and minerals for each meal for the SKD diet. This means that you do not need to worry about adding or substituting other foods, vitamins, supplements, or herbal pills. We have done the work for you.

You just need to eat from the *SKD Food Guide* for 90 days, and then you can objectively evaluate the results with your doctor, who will likely be shocked by your improvement. We have had patients on the program now for three years with no reports of any malnutrition issues. In fact, many patients are very active, with some even competing in competitive sports.

If you want great results, use the program as it is and don't change it. In one year of follow ups, dietary compliance was the number one reason for success. Patients with

the most significant improvements were also the patients with the fewest deviations from the program. We want you to be successful and get great results. Sticking to the program is the way to knock it out of the park in the first 90 days.

We worked for years to get to this point, because I was that patient trying to do all of this at home by myself. I tried all manner of managing these calculations and designing diets. It is simply too much work for us, and even if we do the work, we still don't have any idea if we are really getting complete nutrition or actually lowering the workload on our kidneys. We run in circles using random approaches to nutrition and lowering the workload on our kidneys.

For the first time in kidney history, we can actually follow the best guidance in the world. Integration of all of these components is the breakthrough we all needed to make these diets safe and easy and, most of all, to get repeatable results. Use the program "as is" to follow the best guidance available in 2022.

I promise this is the best way to ensure success on your next blood test and get repeatable or continued improvement over time.

CHAPTER 16

Exercise, blood pressure, and weight

Exercise, blood pressure management, and weight control should be part of any approach to manage kidney disease. The reason is that these factors affect our outcomes and greatly impact our quality of life. When I think of the word "lifestyle," I think of managing these three issues. They are part of a healthy lifestyle for both kidney and heart disease patients.

Exercise first

We get asked about the best exercise for kidney patients. I have no idea what is best, but I do know how to give you an objective way to measure how exercise impacts us as kidney patients.

Your resting heart rate measures how fast your heart beats when you have been completely still for a period of time. A common practice is to measure your heart rate when you first wake before getting moving in the morning. An easy way to do this is to buy a smartwatch that will record or measure your heart rate for you. Another option is to use a traditional heart rate monitor.

Your resting heart rate is predictive of kidney disease progression and proteinuria. The higher your resting heart rate, the more likely kidney disease is going to progress. We can use this data to decide what exercise or what amounts of exercise change our outcomes.

We want to get your resting heart rate as low as possible to improve your outcomes. It doesn't matter what exercise you do — what matters is whether your resting heart rate is dropping or staying in a zone that leads to a better outcome. If you ask us about exercise, we will always refer to your resting heart rate.

Most of us are not in great shape, so our resting heart rates are normally higher than we would like. What you should focus on is the trajectory of your resting heart rate. We want your resting heart rate to be falling towards the optimum zones to keep reducing our risks.

Resting heart rate is a predictor of the following issues:

New micro albuminuria or proteinuria

End-stage renal disease

Doubling of serum creatinine

Renal end point (dialysis)

As you might suspect, the lower your resting heart rate, the better.

Resting heart rate ranges can be categorized based on their risk levels for health issues.

Resting heart rate (bpm)	Risk Category
<60	Lowest risk group, optimal range
60-65	Similar to <60, but slightly higher risk
65-70	Still ok, but higher risk than <60 or 60-65
70-75	Risks start to rise compared to lower heart rate groups
75-80	Risks are now significantly higher than lowest risk groups
80+	Strong predictor of future kidney and heart disease

Trajectory also matters. If your resting heart rate is rising over time, your predicted outcome will start to get worse. Stable or falling resting heart rates have the best outcomes. Your trajectory on many objective measures of health are predictive for a reason. These measures tell us if you are getting sicker or healthier over time.

We want you to start or continue exercising in a manner that allows your resting heart rate to get into the lower risk groups. Aerobic exercise, which includes walking, running, swimming, biking, rowing, or using elliptical machines, is the best way to lower your resting heart rate. Fast walking will do it over time — we don't need to run a marathon.

If you have not done much exercise, don't worry. Just begin in a slow manner. Walking is an easy way to start, and walk a little more every few days until you are walking 30-45 minutes per day. The whole key is to start moving more, and you will be surprised about all of the benefits in addition to helping your kidneys. Those benefits include things like less stress, better sleep, less depression, lower blood pressure, weight loss, improving your sugar metabolism, and so on. Just getting started is the key, and you will develop a healthy habit.

Every person will be different, but focus on your resting heart rate. Please see your doctor to ensure you are healthy enough to exercise if this is a concern for you.

If your resting heart rate is dropping every 90 days or staying below 65 bpm, you are in a low-risk area. It took a good amount of time for my heart rate to start dropping. Some studies suggest it takes two weeks of activity to lower your resting heart rate by just 1 beat per minute. Stick with it over 90 days, and you should see a 3 - 5 beat per minute reduction in most cases. Another 90 days, and you may get another 3 - 5 beats per minute reduction. Once you can stay below 65 bpm, you are in pretty good shape.

The type of exercise doesn't really matter, and we don't know any specific exercise that benefits kidney patients more than others. What matters is your resting heart rate and your blood pressure.

However, other factors such as caffeine and stress can make your resting heart rate higher. Keep these factors in mind if you see your resting pulse rate rising over time.

A note on creatinine and working out

Heavier or more intense workouts, such as weights or strong physical activity, will normally cause your creatinine levels to rise. Creatinine is largely based on muscle tissue breakdown, a normal everyday part of our body function. When we exercise and break down more muscle tissue, our creatinine numbers will rise. This is not a cause for alarm, but you should always go slow and work up to more intense exercises. In my mind, as long as you are staying in great shape and have your heart rate in the low risk group, having your creatinine levels at the top of or just above the normal range is an acceptable trade off.

If you go slow and easy working up to more strenuous exercises, your creatinine numbers will rise by small amounts or not at all in some cases.

Beta blockers and resting heart rate

Beta blockers are drugs used to control or regulate abnormal heart rates or beats. Because beta blockers reduce your heart rate, it may seem like you are in great shape if you are taking these drugs, as they mask your real resting heart rate. You should talk with your doctor about exercising limits or alternate activities you can do if you are taking beta blockers or any other heart-related medications.

Blood pressure control

Blood pressure control is something we all know about. High blood pressure is a cause of both kidney disease and kidney disease progression. The combination of blood pressure-lowering drugs, diet, and exercise is very effective at controlling blood pressures. Because of this, there should be very few patients who cannot control their blood pressure effectively in 2022.

We sometimes see patients who start the program and get less than stellar results, and we find that their blood pressure is out of control or very high. I mention this because if we can't control the basics, then our other progress will be limited or reduced.

Blood pressure control should be considered a basic skill all of us need to master. If blood pressure is out of control, other attempts to slow kidney disease will be short-circuited by untreated blood pressure.

What is the ideal blood pressure for us?

Like everything else, an optimal range for blood pressure exists. High blood pressure damages our kidneys. Low blood pressure does not force enough blood through our kidneys, and can cause your kidney-related blood tests to rise.

According to several studies, the ideal blood pressure is around 120/80 mm Hg or slightly below. The top number is the maximum pressure the heart exerts while beating, called systolic pressure (120 mm Hg in this example). The bottom number is the amount of pressure in the arteries between beats, called diastolic pressure (80 mm Hg in this example).

We recommend 120/80 mm Hg for blood pressure as the best target for us. The reason our recommendation is lower than the NKF recommendations is that the risk of heart-related outcomes is reduced with lower blood pressure. Studies have shown that a systolic BP of 120 mm Hg, compared with 140 mm Hg, was associated with lower rates of major cardiovascular events and death from any cause. We are the highest risk group ever studied for heart disease, therefore 120/80 mm Hg should be our target.

This target is possible for most patients with a combination of drugs, diet, and exercise. It may take some trial and error to get dosage right, but your doctor will help you find the right drug (if needed) and adjust dosage accordingly.

Patients on blood pressure meds like ACE inhibitors have better outcomes than patients who do not take ACE inhibitors. The majority of us should be taking a blood pressure medication to help improve our odds.

Talk with your doctor about blood pressure-lowering medications if your blood pressure is not very well controlled.

Weight

Weight control is a hard one for two reasons. First, studies have shown that kidney patients who are a little overweight actually have a survival advantage. Second, recommending that patients be overweight can't really be healthy, as it goes against everything else we know about heart health.

Looking at the studies, it may be that weight is not the issue. A higher weight may mean patients are healthy enough to gain weight. Patients who cannot gain weight are more likely to have worse health and poorer outcomes. Weight may be a proxy for other health issues, but it's not entirely clear why more weight might be beneficial.

The healthy range of body mass index or BMI is a range of 18.5 to 24.9. We have been suggesting a BMI of 25 as a target BMI. Advocating that patients strive to be overweight feels wrong, so a BMI of 25 is an attempt to straddle both sides of the argument.

Your BMI can be calculated on any number of websites:

CDC BMI calculator

https://www.cdc.gov/healthyweight/assessing/bmi/adult_bmi/english_bmi_calculator/bmi_calculator.html

NIH BMI calculator

https://www.nhlbi.nih.gov/health/educational/lose_wt/BMI/bmicalc.htm

If you are overweight, lose weight slowly on the SKD program. Slow and steady is always safer. Work down to a BMI of 25 over time with your doctor's guidance.

Educational goal:

- Your resting heart rate, blood pressure, and weight are all objective measures that can predict your future outcomes.
- Stable to falling heart rate and blood pressure lead to better outcomes for us.
- Stable weight near the high end of the healthy BMI range may also improve our outcome.
- Exercising is essential to helping your kidneys.
- Maintaining a weight where your BMI is around 25 is essential also.

CHAPTER 17

Support

Support may be the most important part of the SKD program, and it's the hardest to provide at a high level. Patients have different stages, different comorbid conditions, different motivations, and different access to health care. It is hard to provide a high level of support for each and every patient.

Step one in tackling this issue was writing this book to educate patients. We send a copy to every new customer to use as a guide to have on hand and refer to. The goal of this book is to help support patients in a shorter, easier to read format using what we have learned in the past two years. We can educate everyone about the same basics and keep improving this book as we learn more from patients.

The second step in providing support is taking time to validate that the SKD program works as expected. In 2022, we do this by using an email followup and survey system. You will get emails from us checking in to see how things are going and if we can help in any way. These emails will also have helpful information and tips for staying on the program. The goal is to support you on this journey and gather information to improve the program. Please respond and help us better support all patients, both now and in the future. Overall, the program has exceeded our wildest expectations in improving patient outcomes.

Step three is talking with you. We set aside time every week to talk with patients who are having issues or have more questions. There is never a charge or fee. The survey system has an option to schedule a call when we check in with you. You can click a button on the email surveys to schedule a call and get personal help. This is invaluable to clear up any misunderstandings, ask questions, or get clear guidance.

Perspective is everything, both in life and kidney disease

Multiple studies suggest your mental outlook may be more predictive of your outcome than your current GFR. If you think bad things are coming, then they just might. If you think, "I am beating this thing and making it look good," then that just might happen as well.

It's a hero's journey in many ways. We take on an incurable enemy by educating ourselves and changing our diet, exercise, and lifestyle, and then we get to document

the results with our blood and urine tests. We get clear wins most of the time, and it feels really, really good when your tests are constantly improving.

However, a hero's journey is bumpy, imperfect, and filled with challenges and difficult choices. It is always a harder path compared to apathy. I mention this because patients sometimes have an uphill battle getting the support they need from clinicians or family. It's such an issue that a letter exists in the front of the book to help with this problem. When patients start improving, the vast majority of clinicians are supportive. However, when you hit resistance from clinicians, remember that your blood and urine tests will not lie about your current progress and future outcomes.

Stay on the path today and you will be rewarded in the future.

Every week will be easier than the last

As we repeat new skills or try new things, we get better at them. Every week on the program will be easier than the week before, and over time your actions will become almost subconscious and require very little effort on your part.

The same is true for quarterly blood tests. The first quarter or two you will think about how to adjust your diet to address any issues. Later on, after a few quarters of results and dietary changes, making tweaks to your diet will feel like second nature.

Many of us feel overwhelmed and depressed when we are diagnosed with an incurable disease or told dialysis or transplant is in our future. Starting something new may feel especially overwhelming when we are already upset and worried.

The single biggest thing you can do for yourself is to take action and follow a well-thought-out plan that complies with modern guidance. Taking action reduces stress and gives us a sense of control. Doing nothing increases stress because everything feels hopeless.

I can personally tell you fighting a disease is empowering and motivating. Giving up without a fight is soul-crushing. Having a fighter's mentality is a much better space to live in compared with doing nothing or giving up.

I often tell patients "Never underestimate the power of educated stubbornness." If you get educated, focus on improving your health, and pursue getting better with dogged determination, you will be rewarded in so many ways. This is something we see over and over again.

We will help in every way we can, but in the end, you have to make a choice about actively living versus slowly dying. I know it's a stark way to think about things, but keeping things black and white helped me stay focused and motivated.

Remember, **you are building skills to manage kidney disease for life.**

The single biggest reason to try the program for 90 days is to start building skills to manage your disease. Every week, month, or year that you stick with the program and evaluate your results, you build life-long skills to manage your kidney disease.

We have a disease with no known cure that we need to learn how to manage to improve our outcomes. Many others over the last few years have tried our program and have been extremely successful, allowing them to lead a pretty normal life. If you try our program for any amount of time, you will learn and be better educated for it.

Educational goal:

- Support is available by email and by phone.
- Please answer surveys and respond to emails as needed.
- Every check-in or survey will have the option to set up a phone call if you are having problems or need to ask questions. Calls are always free.
- Try the SKD program for 90 days—you will be surprised about the results!

CHAPTER 18

"Are my kidneys healing?" and what to expect

I wanted to end this section by talking about how the SKD program can improve your long-term outcome. I also want to share results from other patients so you have a good idea of what to expect while on the program.

Are my kidney's healing?

One of the most common questions we get is "My GFR is up, so are my kidney's healing?"

Sadly, the answer is no. Kidney disease damage is normally permanent, with a handful of exceptions. Our kidneys are still damaged just like they were before starting the program. Our program — or any other program or treatment — will not heal existing damage or scarring of the kidneys.

As an example, assume your GFR rises from 35 to 45 over a few months. How does this benefit you? Your kidneys are still damaged, but the amount of waste products in your bloodstream have decreased, resulting in a higher GFR. This means we are accumulating less damage at a GFR of 45 compared with a GFR of 35, because we have fewer excesses fueling disease progression.

The same is true for the number of blood tests in the normal range and the amount of protein in your urine. Improving these metrics should result in much better outcomes over time. Moving things back into normal ranges allows our bodies to work closer to intended. We are taking away the excesses which fuel kidney and heart disease progression.

Kidney disease is sometimes called a "disease multiplier" because it accelerates progression of other diseases. For example, declining GFR increases the risks for stroke and heart disease compared to having a stable GFR. In a study of 479,126 heart disease patients, declining GFR each year was associated with an over 200% increased rate of congestive heart failure.

Trajectory matters

One of the SKD program's main goals is to change the trajectory of your GFR, which may be more predictive of your future odds than the actual GFR number. Patients with a stable to rising GFR every year have a much better outcome than patients with a falling GFR.

This is the same for proteinuria and the number of tests outside the normal range.

I will use myself as an example. I have had kidney disease for over 20 years, and for the first decade my GFR was slowly falling each year. However, through dietary and lifestyle changes, I have stabilized my proteinuria and GFR for the last 12 years. I still have pronounced proteinuria and reduced kidney function which will never heal, but I am able to keep all of my tests in the normal ranges or very close. This is not supposed to be possible after more than 20 years with kidney disease, but it can happen for those of us committed to making changes to live longer, better lives.

Your kidneys are damaged and will very likely stay damaged, but you can make up for this damage with your dietary and lifestyle choices. Patients with a higher GFR have better outcomes across the board. You can do much of the work for your kidneys by making the right dietary choices.

We can look at different studies to illustrate the impact of GFR on our health outcomes. It is very easy to see how declining GFR results in poorer health and increased odds of a bad outcome. This is yet another reason why early intervention in stage 3 and 4 is so important.

Rate of death per 100 patients, standardized for age

GFR	Deaths per 100 patients
>60	.76
45-59	1.08
30-44	4.76
15-29	11.36
<15	14.14

As you can see, those with a GFR between 30-44 had a 4 times higher rate of death than those with a GFR between 45 and 59.

Meanwhile, those with a GFR below 29 had an 11 times higher death rate compared to those with a GFR of 45 or above.

Rate of cardiovascular events per 100 patients, standardized for age

GFR	Cardiovascular events per 100 patients
>60	2.11
45-59	3.65
30-44	11.29
15-29	21.80
<15	36.60

Again, dropping below a GFR of 45 is where things start to get bad, as it increases our risks dramatically.

Rate of Hospitalization per 100 patients, standardized for age

GFR	Hospitalizations per 100 patients
>60	13.54
45-59	17.22
30-44	45.26
15-29	86.75
<15	144.61

Patients with a GFR of 15-29 had a hospitalization rate that was 4 times higher than patients with a GFR between 45-59.

As you can see, as we let our GFR drop over time, our likelihood of something bad happening — whether it's death, heart disease, or hospitalization — increases dramatically. If we improve our numbers, we can improve our predicted outcome.

Remember, a low GFR by itself is not causing these issues. It is simply a barometer for the accumulation of years of comorbid conditions, irreversible damage, and worsening blood/ urine tests over time. It's years of getting sicker that causes the real damge by the time we hit stage 5.

While our kidneys will not heal, we can do much of the work for them, resulting in higher GFR, lower BUN and creatinine, and more blood work into the normal ranges. This changes our risk profile and should reduce the speed of both kidney and heart disease progression.

What the SKD program looks like over the short and long term

Patients often ask what to expect or how much they can improve on the SKD program. It is almost impossible to say due to differences in each person's type and stage of kidney disease, comorbid conditions, compliance with the program, and so on.

While there are no guarantees, we can share other patients' results on the program over time to help educate you on what is possible.

We always talk about validating any program, treatment, or diet for at least ninety days. We ask patients to submit blood test results before and after starting the program to see changes over time.

Below is data from fourteen patients that shows their change in GFR after 90 days on the SKD program.

Average starting BUN	Average BUN after 90 days	Change
32.57	18.86	-42.11%
Average starting GFR	**Average GFR after 90 days**	**Change**
36.86	47.29	+28.29%
Average starting creatinine	**Average creatinine after 90 days**	**Change**
1.93	1.49	-23.10%

In terms of the Kidney Trifecta, you can see the following in these patients:

- GFR is rising and or stable
- BUN is now in the normal range or falling
- Creatinine levels are falling or in the normal range

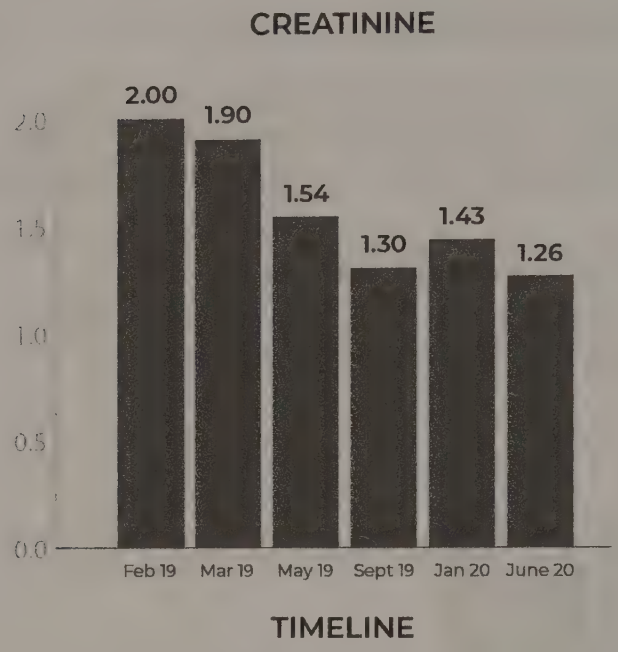
Our situation is now very different than before, as we have everything moving in the right direction for better outcomes. Objective indicators of our health are improving. Remember, our actual kidney function has not changed, but we are working with the kidney function we have left. We can use our brains and diet to compensate for our lower kidney function.

Example of skill-building and long-term improvement

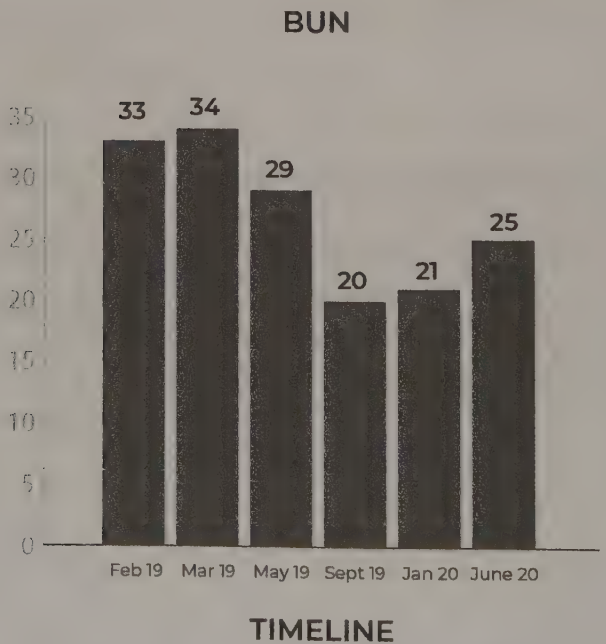
Patients on the program typically get the largest percentage gains in the first 90-120 days, but other gains will normally continue over time. As your diet is expanded, you will have to make some corrections to continue to see progress. Some numbers improve slower than others.

This patient started the program after he submitted his blood test results in February 2019. You can see his improvement in GFR, creatinine, and BUN levels over 17 months and the corrections he made as his diet was expanded.

During the 90-day validation period, his GFR increased from 32 to 51. If you look at January 2020, his GFR dipped to 49, but he was able to correct again to hit a new high of 55 based on the skills he had learned during the prior year. Overall, his GFR has shifted from falling slowly to rising over 60% in 17 months. This change is supposed to be impossible, but it can happen when everything is well thought out and integrated. Each patient's results will vary based on a number of factors.



The normal range for creatinine is **0.74 to 1.35 mg/dL**. It took some time, but his creatinine is now in the normal range or very close. As you can see, his GFR improved rapidly, but creatinine took more time. This slower pace for creatinine is to be expected, and is another reason to stay on the program for the full 18-24 months. Stopping at 90 days would have only reduced his creatinine by 0.46 mg/dL compared to 0.74 mg/dL over time.



Blood urea nitrogen is the easiest test to change, as it is directly related to your daily nitrogen intake and your current kidney function. 6 to 24 is the normal range for BUN. It took seven months for his BUN levels to hit a new low. After 17 months, this patient is now in the normal range or slightly above it. As he has expanded his diet, the BUN numbers have increased slightly.

Each test varied some, and not all tests improved each quarter. In January 2020, you can see that this patient's test results regressed slightly across all three measures. However, because he had the knowledge and skills to make corrections, he was able to adjust his diet accordingly. As a result, his GFR went up to a new high at the next test.

Overall, his tests showed steady improvement over time, which is exactly what we are after. His trajectory has changed dramatically.

After 18 months, the patient is likely close to maxing out the benefits of the program. He can now start adding foods back into his diet as long as he keeps his blood work in the normal ranges.

This patient worked very hard, was motivated, and had a great education on kidney function, kidney disease, and kidney disease progression. In this case, he kept an image of a patient on dialysis on his fridge to remind him why he should stick with the program.

The key point I want you to get from this is that we have the power to change our outcome if we are willing to. The skills and education you acquire during the program will help you for life.

While every patient is different, we do know that compliance with the program is the number one factor in changing test results over both 90 days and one year. The more substitutions or changes to the diet, the worse the results. The reason is that the SKD diet was created through research and work by doctors, nutritionists, and patients to make sure the approach worked.

Educational goal:

- Kidney and heart damage is normally irreversible, but we can learn to work with the kidney function we have left to dramatically change our predicted outcomes.
- We can move many tests into the normal range over time, and GFR improvements of 20% or more are possible with the SKD program.

- You can likely improve your test results for four to eight quarters in a row.
- Over time, you will develop the skills to manage kidney disease and adjust your diet as needed.
- You will have these skills for life.
- Nothing will improve if you don't try!!!

CHAPTER 19

Tips for the first 90 days

I wanted to answer the most common questions we get from patients during their first 90 days on the program. Hopefully, some of these tips will make it easier for you to follow the program while avoiding common roadblocks.

1. "Can I substitute foods?"

   As a general rule, no. The reason is that compliance with the SKD diet is a major factor in producing results. We've found that patients with the most dietary substitutions have little to no change in their test results, while those with the highest dietary compliance see the biggest changes. One common mistake some patients make is following a vegan or vegetarian diet. However, these diets are not low protein. Some cheating and substitution is inevitable, but you need to keep it to an absolute minimum. Stick with the program outlined in the book for 90 days to get the best results.

   Stick with the recipes in the *SKD Food Guide*.

2. "I still feel hungry."

   Many patients moving from high-protein diets or high-calorie diets may still feel hungry after eating. You have a few options here. First, see page 103 in the *SKD Food Guide* for an example of how to meet your daily calories by combining snacks and meals.

   Second, eat desserts from the book several times a week. Patients who regularly eat desserts don't feel like they are on a diet, so their dietary compliance improves while getting more calories. If you are losing weight or need more calories, you can increase your meal size, increase your serving size, or add extra olive oil to your meals.

   If you are overweight, the ideal scenario is to have a slowly decreasing weight.

3. Don't stress over exact numbers every day

   No one will get exactly x grams of protein — or any other nutrient — every day. Each meal or day can fluctuate based on your choices, and that is okay. What matters over time is your average numbers for the week.

4. Take it slow

   Go through the *SKD Food Guide* and pick out a few recipes you like. You are likely changing your habits, so don't try to make everything in the book right away. Start with just a few, and then add more recipes over time as you like.

5. How to be the most successful in the first 90 days

   As we have discussed, sticking with the program is the number one thing you can do to be more successful. The diet, Albutrix, and Microtrix provide the needed RDAs, so you don't need to worry about nutrition. All of the work is done for you in the food guide. Remember, it's only for 90 days so that you can validate the effectiveness of the program.

6. "The recipes are too spicy or too bland."

   You can season the recipes any way you like, as long as you are not using salt or seasoning with added salt. You can make recipes as spicy or savory as you like. Differences in spices and herbs will not make a difference to your nutritional intake.

7. The struggle is with old habits and change

   Avoiding or reducing the odds of dialysis, living a high-quality life, feeling better, and taking control of your disease are all rewards of adopting a kidney- and heart-healthy diet and lifestyle. However, you will have to make an effort not to slip back into old habits. Understand why you are trying the program, and remind yourself of these reasons daily.

8. "I am worried about getting enough protein."

   The *SKD Food Guide*, Albutrix, and Microtrix are integrated to provide the lowest possible workload on your kidneys while providing all of the RDAs for each essential amino acid. We have not received any reports or examples of protein malnutrition in the SKD program. You do not need to supplement or eat more protein.

9. "Where can I find new recipes from kidneyhood.org?"

   Check our website and make sure you are on the email list to get new recipes:

   https://kidneyhood.org/pages/kidney-friendly-recipes

10. "Do I need a restriction if my blood work is in the normal range?"

One example we hear is "My potassium is normal, so do I need a potassium restriction?" The answer is normally no. When your blood work is solidly in the normal ranges, you usually do not need to further restrict intake. However, talk with your doctor to be sure before making any changes.

11. "I still have questions or concerns."

Please email us at support@kidneyhood.org. If we cannot answer your questions by email, we will set up a phone appointment to help answer any questions you may have.

CHAPTER 20

Blood and urine test basics

Understanding your blood and urine test results is a key skill. We don't need to be doctors, but we do need to understand a few basics about kidney-related blood tests. The explanations below can help you learn to adjust your diet when needed. Keep in mind that you should always be under the care of a doctor and regularly ask for their input on your test results.

The first fact to understand about many blood and urine tests is that they are simply a measurement of:

Our current kidney function vs. our current total intake of that vitamin or mineral

It's that simple. "Total intake" refers to the combination of both dietary and supplemental intake.

The following tests fall under this category:

Calcium

Magnesium

Phosphorus (Phosphate)

Potassium

Sodium

Blood urea nitrogen (BUN) from dietary protein intake

Iron (Ferritin on blood test)

Most vitamins

Example:

"My phosphorus is above the normal range."

This means that your total phosphorus intake in a 24-hour period is more than what your kidneys can excrete or manage in a 24-hour period.

Intake greater than what your kidneys can process will cause your numbers to start creeping outside the normal range as excesses build up in your bloodstream.

In some cases, your kidneys lose the ability to retain or manage normal levels, resulting in tests lower than the normal range.

If you want to increase or decrease your levels, you simply increase or decrease total intake. You can remove or add recipes to your diet that are high or low in the listings below to manage your levels. Adjusting dietary intake is always preferred over supplemental intake when possible. If you are supplementing one of these, then you will likely need to stop or reduce intake.

If you are above the normal range in any of the tests listed above, look at your diet to identify the top three sources for the vitamin or mineral in question. Remove these meals from your diet to reduce your levels. If you are below the normal range, all of these can be supplemented with the exception of BUN. Remember that we should only supplement known or proven deficiencies. Don't guess on this — use your blood tests as a guide.

Other tests are more nuanced and affected by more than just your dietary intake. These tests require a little explanation and are listed below. BUN was explained in chapter 2.

Creatinine–Creatinine levels are largely influenced by muscle breakdown (which produces about 75% of your creatinine), while dietary intake accounts for the remaining 25%. Our body breaks down muscle tissue everyday regardless of our dietary intake. Creatinine numbers fall slower than BUN levels for this reason. If you start working out, your creatinine levels will rise due to increased rates of muscle breakdown. This increase in creatinine is okay as long as it is tied to your workout intensity.

Vitamin D–Vitamin D can be supplemented, found in foods, or generated in our bodies through sun exposure. As our kidney function declines, so does our ability to generate vitamin D, meaning that these levels may fall over time and need to be addressed. High levels of vitamin D also need to be addressed, as taking too much vitamin D can damage the kidneys.

eGFR–Estimated glomerular filtration rate estimates your current kidney function based on the amount of waste products in your bloodstream. Your creatinine, cystatin C, age, race, and gender are all used to calculate your eGFR. As you reduce protein intake, you have fewer protein-related waste products in your bloodstream, resulting in an increase in GFR or eGFR.

Albumin–Albumin is the most common protein found in our bloodstream. When we leak protein in our urine, our albumin levels start to fall over time, sometimes dramatically. When this happens, we can experience swelling or edema. However,

reducing proteinuria — or the amount of protein leaked in our urine — normally leads to improved albumin levels, thus reducing or eliminating this swelling.

Albumin is made by the liver and is not easily improved by diet. A high-protein diet can actually reduce albumin levels further due to oxidative stress. However, higher antioxidant intake may improve albumin slowly over time. This is one of the reasons why the SKD diet is much higher in antioxidants than traditional low-protein, vegan, or vegetarian diets.

Carbon dioxide (CO2) is another waste product in our blood stream, and is produced when cells turn sugars and fats into energy. Dissolved carbon dioxide is considered acidic, so it is used to assess acid levels in our bloodstream. High-acid foods like meats and cheeses increase acid levels, leading to acidosis if not corrected. Acidosis is a strong driver of kidney disease progression. As a result, the SKD diet is alkaline to keep these CO2 levels in the normal range.

Serum bicarbonate–Bicarbonate is also a form of CO2, but is alkaline or base. Fruits and vegetables are an excellent way to increase bicarbonate levels, and high intake of these foods can increase our bicarbonate levels for up to two years. However, meats and cheese are high in acid, which can reduce bicarbonate levels. Using sodium bicarbonate to correct these levels is somewhat controversial, as it is a form of salt not recommended for kidney patients. Ideally, your bicarbonate intake will be from alkaline fruits and veggies and not supplemental sodium bicarbonate.

CHAPTER 21

Summary

Putting it all together to change your outcome

My hope is that by the time you get to this final chapter, you are feeling better and more educated about your kidney disease compared to two hours ago.

We have put together the first comprehensive, integrated approach to slowing kidney disease progression through diet, exercise, and lifestyle. We have taken great pains to ensure our approach complies with the guidance from multiple organizations and countries.

I have tried to solve the problems I experienced as a kidney patient and to make it as easy as possible for you. Combining random things that go against modern guidance is now a thing of the past.

However, the greatest program in the world is useless if patients and caregivers don't know it exists, don't understand the benefits, or feel it takes too much work.

We have done as much of the work for you as possible, and we provide email and phone support to help you along the way.

It's up to you!!

For patients with any disease, it's an emotional roller coaster. It's brutal to get the news that you have a disease with no cure and may die much younger than expected. However, we can rise to the challenge through educating yourself and validating any treatment or diet you try. You can bring order to a chaotic disease that has limited treatment options.

We know that only a fraction of patients choose to take action to slow kidney disease progression. The reason is simple: patients don't know what to do, and they can't be expected to become medical researchers or doctors to learn what the science says.

Every quarter, your blood and urine tests are going to tell you if you are getting better or worse. If we can make small gains on our disease every quarter, then our

long-term outcomes can be changed dramatically. I often think we should start the "1% club". If you are getting 1% better every quarter, your odds are significantly better than someone whose blood work is getting 1% worse every quarter.

Remember, dietary perfection is not required, but a long-term commitment to beating kidney disease is a requirement.

Please help us build a better database of information for kidney patients

You will get emails from us asking for your help in documenting your progress in the program. Very little factual data exists about who benefits the most from low-protein diets. Therefore, we are building a database to better understand this issue.

In a perfect world, we would be able to tell a patient with X disease at Y stage of kidney disease what will happen if they start the SKD program. We would also be able to send these patients a list of best practices for their specific issues or stage of the disease, based on data from hundreds of other patients.

This information is desperately needed by caregivers and patients to improve outcomes. Please help us build a better future for all kidney patients by participating in the research. There is still so much we don't know about kidney disease and how to slow its progression.

We are here to help

My goal here is to give you enough information to make great decisions about your health using the most updated guidance. If you feel some information is missing from this short guide, please email us at support@kidneyhood.org with the information you would like to see included.

My hope is that one year from now, your life will be very different from what it is today. I hope you improve dramatically over the next year or two and learn skills to manage your kidney disease for life.

You can reach out to us by email:

support@kidneyhood.org

*Email is preferred as we get many calls that can easily be answered by email. If we can't answer easily, then we will call you if you give us your phone number in your email.

Albutrix S3, S4, and S5 and the book series can be ordered from www.Kidneyhood.org.

If you are outside the US, Amazon also carries our book series in paperback and Kindle (digital) versions.

I hope you find this information to be a vital, life-changing resource for kidney disease management.

Please, please for your sake: try this program for 90 days so you can help yourself, as I and hundreds of others who are on this program have done!!

To your health,

Lee Hull

Made in United States
North Haven, CT
04 July 2022

KIDNEYHOOD.org

INNOVATION, EDUCATION AND SUPPORT FOR PATIENTS WORLDWIDE

STOPPING KIDNEY DISEASE™ BASICS

Stopping Kidney Disease Basics is an educational guide and resource for patients who want to try and slow kidney and heart disease progression. By using this program, you, like many others, can improve your kidney health in 90 days or less.

The SKD program is a patented approach to slowing kidney disease progression while meeting the recommended daily amounts (RDAs) for essential amino acids, vitamins, and minerals. This program ensures long-term safety by following up-to-date recommendations from organizations like the National Kidney Foundation, American Heart Association, and guidance from multiple countries.

This program has already been used by hundreds of patients who have seen definite, documented improvement in their kidney function tests.

SKD basics is the fourth book in the SKD educational series:

- Stopping Kidney Disease (2019)
- Stopping Kidney Disease Food Guide (2019)
- Kidney Failure to Kidney Transplantation (2020)
- Stopping Kidney Disease Basics (2022)

Find more information at www.kidneyhood.org.

P9-BQC-459

ISBN 9781734262414

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